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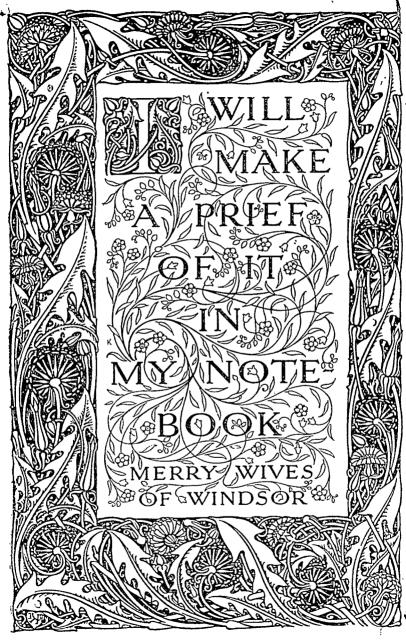


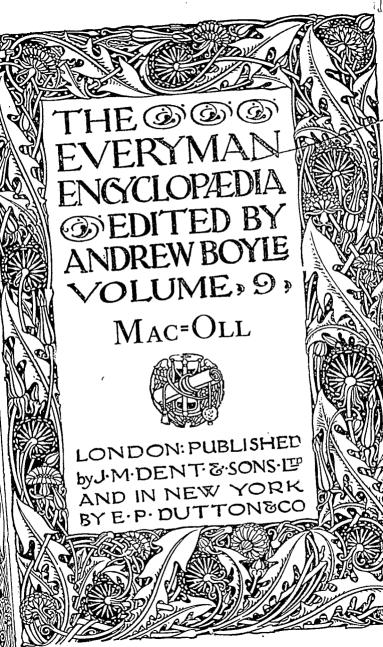
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LIST OF ABBREVIATIONS

ac., acres. A.D., after Christ. agric., agricultural. ambas., ambassador. ann., annual. arron., arrondissement. A .- S., Anglo-Saxon. A.V., Authorised Version. b., born. B.C., before Christ, Biog. Dict., Biographical Dictionary. bor., borough. bp., birthplace. C., Centigrade. c. (circa), about. cap., capital. cf., compare. co.. county. com., commune. cub. ft., cubic feet. d., died. Dan., Danish. dept., department. dist., district. div.. division. E., east; eastern. eccles., ecclesiastical. ed., edition; edited. e.g., for example. Ency, Brit., Encyclopædia Britannica. Eng., English. estab., established. et seq., and the following. F., Fahrenheit. fl., flourished. fort. tn., fortified town. Fr., French. ft., feet. Ger., German.

Gk., Greek.

gov., government.

Heb., Hebrew.

Hist., History.

i.e., that is. in., inches. inhab., inhabitants. Is., island, -s. It., Italian. Jour., journal. Lat., Latin. lat., latitude. I. b., left bank. long., longitude. m., miles. manuf., manufacture. mrkt. tn., market-town. Mt., mts., mount, mountain, -s. N., north; northern. N.T., New Testament. O.T., Old Testament. par., parish. parl., parliamentary. pop., population. prin. principal. prov., province. pub., published. q.v., which see. R., riv., river. r. b., right bank. Rom., Roman. R.V., Revised Version. S., south; southern. sev., several. Sp., Spanish. sp. gr., specific gravity. sq. m., square miles. temp., temperature. ter., territory. tn., town. trans., translated. trib., tributary. U.S.A., United States of America. vil., village. vol., volume. W., west; western. yds., yards.



Machærodus, an extinc' as large as a lion, with canine teeth sabre-shape traordinarily developed. are found in Pleistocene

traordinarily developed.

are found in Pleistocene:
Britain and other parts of Europe, in India, and in S. America.

Machecoul, or Machicolium, a tn. of Loire-Inférieure, France, on the Falleron, 20 m. from Nantes. It was capital of the old duchy of Retz.

Pop. about 1800.

M.S.A., 45 m. N.W. of Chicago. Pop. (1910) 1500.

Machiavelli, Niccolo (1469-1527), was born at Florence. In 1488 he was made secretary of the Ten,' a board which had the management of foreign affairs. In 1502 M. was sent on a mission to Duke Valentino, the formidable Borgia, to make professions of friendship on the part of the Emperor Maximilian. On his return he wrote several reports on the affairs of Germany, besides the letters which he had sent home during his mission: Rapporto sulle Cose dell' Alemagna; Ribratti di Florentines and in 1509 he was sent before Pisa, which wa the Florentines and in .

before Pisa, which wa the Florentines, and in

from public life, and wrote his courses upon Livy, his books on the art of war, and his Principe. The Principe was first published at Rome in 1532. The Legazioni, or letters of the political missions of M., which are the key to his Principe, were not made public till the middle of the last century. The chief works of M., to time time above, are: Storie Fiorentine; La Mandragora and La comparable with those of the rife.

ana, o

~i dell' si la ztrarca.

vere dropped on the nts. Also a projecting

Since the 16th century attempts have been made to produce weapons which could fire a volley, that is, a number of projectiles fired simultaneously. All these have failed, partly because of the difficulty of loading rapidly, partly on account of the cumbrous nature of such a machine, but mainly because such a volley is too concentrated; in addition, range and aim were too uncertain till the introduction of rifling in the 19th century. After this revolution something approaching a useful weapon was produced: the Gatling gun, an American invention, and the French mitrailleuse. The former. which was an outcome of the Ameri-Civil War, had a cartridge chamber to which were brought in succession ten barrels revolving on an axis. The motion was controlled by a handle turned by the server, who regulated the speed of firing by its means. The Rettege M. G., or mitrailleuse, was a collection of twentyfive barrels bound together and fixed. It was more cumbersome than the Gatling; it had a range of some 4500 yds., and fired from 75 to 125 rounds per minute. Other similar weapons were the Gardner and the Nordenfeldt, the latter more a naval weapon, but the Gatling and Nordenfeldt were the only really successful guns. In all 'jamming' was a most serious defect, and has not been completely overcome even in modern weapons. The rapidity of fire causes overheat-ing, and yet rapidity is the essential necessity. The Maxim gun, invented by Sir Hiram Maxim, is the first M. G. to prove really efficient. The weight of this gun is 60 lbs. for the '303" type; the Mark II. converted, 64 lbs. It is carried on a tripod weighing 48 lbs., and the filled ammunition box weighs 21 lbs. In this gun a part of the force of the recoil due to the explosion is utilised to eject the spent cartridge cases. The Maxim gun consists of two portions: (1) the recoiling, which moves backwards with each explosion, and so opens the breech, and which is forced back again by a fusee spring; and (2) the non-recoiling portion. The nonrecoiling portion consists of (i.) a gunmetal barrel casing, which holds water of surprise. for cooling puropenings (used drawing off, a steam to esca packed with a packed with a k, and guns are used in the ejector tube through which empty cartridge cases are expelled from the gun; and (ii.) the breech machines, Automatic, self-moving machines, No contrivance is quite independent of an external moving potentially and only areas expensively and contribute the state of an external moving principle; it has to be wound up, or a rear cross-piece, and containing the stoked, or otherwise acted upon at buffer spring, resistance piece, and certain intervals. The word auto-

various check lever. Along the bottom plate produce a volley, ideas the trigger bar. The rear cross-piece holds the firing lever and spring, a safety catch, and a shutter for examinse have ing the barrel. The recolling portion consists of a copper-coated barrel and two side plates which carry a lock and crank. The feed block fits under the cover in a recess, in the breech casing, and is provided with two slides attached to a pawl, for moving the cartridges transversely. Two stationary pawls prevent the belt from slipping. The feed block has a band roller and steel guide to ensure the cartridges coming to the right position to be seized by the extractor. Once this gun is loaded pressure on a double button is all that is necessary for firing automatically. The manipulation, when once the machine is ready for action, consists merely in pressing the buttons, and tapping the gun to produce deviation of the line of fire. Transport is on horse back, a single horse only being necessary. When in action three modes of firing are adopted and are self-explanatory; horizontal traversing, diagonal traversing, and vertical searching, together with all round traversing. The cartridges are grouped on the band into 'bursts' of 10 to 50 rounds, with intervals allowing time for deviating the gun. Up to 1000 yds, it is con-sidered that the Maxim gun, firing 250 rounds per minute, can distribute annihilating fire over 25 yds, of front; the lateral gaps between the balls being not greater than 1 ft. 6 in.; if fired at an angle of 45° to the target, an increase in efficiency of 30 per cent. is reckoned. Another gun of the same type, but in many respects more handy, is the Vickers light M. G. The introduction of M. Gs. was expected to restore the balance between artillery and infantry, the introduction of rifling having temporarily given advantage to the latter. Improvements in the artillery itself, however, re-stored the balance and the M. G has too small a range to compete with the heavier ordnances. They have established themselves as a support to infantry, in that they can rapidly add to intensity of firing, and owing to ease of concealment, add the element They may cover an or an exposed flank, or be eadiness against cavalry or a · ittack. The range is usually to 1200 yds. for most effec-

, and ob-

matic is applied by common consent, Scottish chemist and inventor of to machines in which a simple action on the part of the operator is followed by a comparatively complicated series of movements on the part of the machine. Thus the penny-in-the-slot automatic sweetmeat delivery machine, requires the placing of a penny in the slot, when the mechan-ism performs the movements necessary to deliver the sweetmeat to the customer. In its simplest form the machine is actuated by the weight of the penny after rolling down an in-clined plane being applied to one end of a lever, the energy being just suffi-cient to disengage a catch in such a way that the tray containing the sweetment is thrust forward by a spring or is released for an outward pull by the operator. Fraud is to an extent prevented by the channel for the coin being just large enough to receive it, and by so adjusting the lever that a weight less than that of an average penny fails to move it. The term automatic is also applied to devices where work usually requiring human agency is performed by the machine, as in the automatic cash register, where certain amounts of

by the operator, thus tending to prevent fraud. For machines devised to imitate certain actions of a human person for exhibition purposes, see

AUTOMATON.

Machynlieth, a parl. bor. and par. of Montgomeryshire, Wales, on R. Doyey, 101 m. from Dolgelly. Manufactures include flannels and coarse There are slatewoollen fabrics. quarries and lead-mines. Owen Glendower summoned a parliament here in 1402. Pop. (1911) 1945.

Macieowice, or Maciejowice, a tn. Siedlee prov. Poland, Russia, of Siedlee prov., Poland, Russia, on the Vistula, 45 m. from Warsaw. Kosciuszko was defeated here by

the Russians (1794).

Sir Thomas McIlwraith, (1835-1900), an Australian statesman and civil engineer, born in Ayr, Scotland. Emigrating to Victoria (1854), he entered the Queensland parliament (1869); was premier from 1879-83, and annexed British New Guinea to Queensland. In 1888 he was to Queensland. In 1888 he was attac premier for a short time, and the (1689 dispute arose with the governor land.

93, retiring to through ill-health.

Macintosh, Charles (1766-1813), a

introduced f lead from first alum

tained a patent (1825) for converting malleable iron into steel, helping Neilson to bring his 'hot-blast' process into use (1828). He took out a patent for his 'mackintosh' cloth in

1823. See Memoir by C. Macintosh. Mack, Karl Freiherr von Leiberich (1752-1828), an Austrian general. He entered the army in 1770, fought against the Turks, and became field-marshal in 1797, commanding the Neapolitans against the French. He took Rome, but failed to hold it, and was defeated by Championet, giving himself up to the French. Escaping from Paris (1800), he fought against the French under Napoleon, but was beaten on the R. Iller and at Ulm He was imprisoned (1805).Austria, but pardoned (1819). See Raumer, Hist. Taschenbuch, 1873: Thiers, Hist. du Consulat. 1845-63; Nauvelle Biog. Gén.; Straffieur (Jan. 1907).

sugarregion. Coalisfound, Pop. 4000. Mackay, Alexander Murdoch (1849-90), a Scottish missionary, sent to Uganda by the C.M.S. (1876) as a mechanical engineer. He laboured there from 1878 till his death. See

Life by his sister (1899).

Mackay, Charles (1814-89), a Scottish poet, editor of the Glasgow Argus (1844-47), the Illustrated London News (1852-59), special correspondent at New York to the Times during the American Civil War (1862-65), revealing the Fenian conspiracy. works include: The Salamandrine, 1842; Voices from the Crowd, 1846; Egeria, 1850; Under Green Leaves 1851; various prose works, and many popular songs, such as 'The Good Time Coming,' Cheer, Boys, Cheer! (see Collected Songs, 1859). Marie Corelli is his son's step-daughter. See his Through the Long Day, 1887; Standard (Jan. 3), 1890.

Mackay, Hugh (c. 1640-92), a Scottish general, fought for Charles II. after the Restoration (1660), and then for France against Holland. He mar-ried a Dutch lady (1673), and later attached himself to William of Orange (1689),ng-M.

was de served in Ireland (1691), and fell fighting in Flanders at Steinkerk. See England in 1895 Own Times, 1724-34; Napier's Claverhouse, about 1834

Mackay, John William (1831-1902),

Comstock Lode, and after disappoint-ments became very rich. With Flood and other partners he established the Bank of Nevada in San Francisco. In 1884, with J. G. Bennett, he formed the Commercial Cable Company and the Postal Telegraph Company, to fight Jay Gould and the Western Union.

Robert, 'Rob Donn,' or Mackay, Robert Calder (1714-88), a Gaelic bard, at first a herdsman, later steward to Lord Reay. He enlisted in the army (Sutherland Highlanders) (1759-67). His poems are among the best in Gaelic literature. The translated ones include: Two Lovesongs to Annie Morrison; The Highlander's Return; The Song of Winter; A Poem on Death. See Memoir pre-

ous shrub (order Acanthaceæ), now included in the genus Asystasia. It is grown in greenhouses, and if kept dry in winter and pruned im-mediately after flowering, it produces an abundance of racemes of rose-lilac blooms with purple veins.

Mackeesport, a tn. in Pennsylvania, U.S.A., close to the great iron centre of Pittsburg, with iron and tin works of its own. On the Monongahela R., the borough takes its name from a certain John McKee, who was

formerly a prominent citizen.

M'Kees Rocks, a vil. of Allegheny co., Pennsylvania, U.S.A., 5 m. from Pittsburg, on the Ohio. Coal and lumber are shipped. There are carshops, iron and steel works, and glass manufs. Pop. (1910) 14,702.

M'Kendrick, John Gray (b. 1841), a Scottish physiologist, born at Aber-He is Fullerian professor of deen. physiology at the Royal Institute of Great Britain, and president of the Physiological Section of the British Association. He has published: Animal Physiology; Life in Motion or Muscle Nerve; Science and Faith; Christianity and the Sick, and various papers on physiological acoustics.

M'Kenna, Rt. Hon. Reginald (b. 63), an English barrister and politician, born in London, and educated at King's College, London, and Trinity College, Cambridge. He was called to the bar in 1887, and practiced till his election to parliament in 1895, when he became Liberal member for N. Monmouthshire, a seat he still

an American capitalist, called the Secretary of the Treasury; in 1907 'Silver King.' He emigrated from Ireland to New York (1840), moved to California in 1851, and to Nevada in 1852. He bought many shares in 1852. He bought many shares in 1852. The bought many shares in 1862. The bough America, originates as the Athabasca in British Columbia, and flows over 600 m. to Lake Athabasca, whence it issues as the Slave R., and after a course of 240 m. enters the Great Slave Lake. As the Mackenzie R., it leaves the W. end of the lake and flows into the Arctic Ocean, its course being estimated more than 1080 m. Its most important tributaries are the Liard, or Mountain R., Peel R., and Bear R., from Great Bear Lake; near its mouth it forms an intricate delta. This great waterway was first discovered by Sir Alexander Mackenzie in 1789.

Mackenzie, Sir Alexander (c. 1755-c. 1820), a Canadian explorer, born of Scottish parents at Inverness. Early in life he emigrated to Canada, and for eight years (1781-89) traded in fur with the Indians at Lake Athabasca. In 1789 he discovered the river, which he named after himself. He led an exploring party to the Pacific in 1792, and on his return to England in 1801, published Voyayes from Montreal to the Frozen and Pacific Oceans. See Châteaubriand,

Voyages on Amérique. Mackenzie, Alexander (1822-92), a Canadian statesman, born at Dun-keld, Perthshire, Scotland. He emi-grated to Canada in 1842, and settled at Kingston, Outario, where he be-came a builder and contractor. In 1867, on the union of Canada, he was elected to the Dominion parliament and became leader of the reform opposition. In 1873 he organised a Liberal ministry and became the first Liberal 'premier' of Canada. On its fall in 1878, M. led a brilliant opposi-tion for two years. He was a strong supporter of the close union of Canada and Great Britain, and his ministry is said to have been the purest experienced by Canada.

Mackenzie, Sir Alexander Campbell (b. 1847), Principal of the Royal Academy of Music, born at Edinburgh, He is a teacher of music, violinist, and composer, and the conductor of the Philharmonic Society. Among his publications are: Colomba; Rose of Sharon; Jason; Scottish Rhapsodies; La Belle Dame sans Merci (for orchestra); incidental music Coriolanus and Little Minister, music various songs, part songs, anthems,

Mackenzie, Sir George, (1636-91), a Scottish lawyer, author, and poliretains. In 1905 he became Financial | tician, born at Dundee. He entered the Scottish parliament in 1669 as defeated, and M. escaped to the member for Ross-shire, and became king's advocate in 1677. In spite of his professional work, he found time for literature, and published: Religio Stoici; Moral Essay upon Solitude; the rebellion, enabling him to return Stoici; Moral Essay upon Solitude; Moral Gallantry; Discourse on the Laws and Customs of Scolland in Mackerel, the popular name given to all members of the Scombridge, a family of teleostean fishes inhabiting prosecutor in the days of the Atlantic. Indian and Pacific prosecutor in the days of Covenanters, he earned the nick-name of 'bluidy Mackenzie.' See Life prefixed to his Collected Works.

Mackenzie, Henry (1745-1831), a novelist, was by profession a solicitor, and practised at Edinburgh, being and generally finiets; the pseudo-the partner of George Inglis, whom he succeeded as crown attorney for air-bladder is small, or may be miss-Sc M. are widely dis-

set of 88

At the London Hospital he held successively the posts of medical officer, assistant-physician and physician from 1860 till 1874, when he resigned. The London Throat sician from 1860 till 1874, when he resigned. The London Throat Hospital was founded by him in 1863, and his skill as a larryngologist led to his attending the Emperor Frederick III. of Germany in his fatal illness. His most important publications are: The Use of the Laryngoscope; Essay on Growths in the Laryna; The Hypiene of the viscal Organs. etc. See Life by the See Life by Focal Organs, etc. Haweis, 1893.

William Lyon (1795-Mackenzie, 1861), a leader of Canadian rebellion of 1837-38, born at Dundee, Scotland. Emigrated to Canada in 1820 and settled at Queenstown, where he became a journalist and edited a newspaper entitled the Colonial Advocate in which he took an extreme stand against the government. In 1828 he was elected to the legislature, but was expelled for alleged libel on the He visited the United States in 1829, and was sent to England in 1832 as the delegate of his party, to appeal against certain abuses. In 1834 he became mayor of Toronto and founded the Canadian Alliance Society. In 1837 he led the

the Atlantic, Indian, and Pacific They are fusiform fishes. Oceans. covered with small scales, or occasionally with a naked skin surface; the eyes are lateral; the teeth well-developed; there are two dorsal fins

> greatly valued as colour is reddish.

ng a larger supply the late sixties he began to compose of blood and nerves than is the case his best-known work. The Man of Feeling, which was published anonymously in 1771, and attracted much at a contrast to the earlier work is as a contrast to the earlier work is des are brilliantly iridescent. In appeared The Man of the World, which was at once proix and dull.

Maokenzie, Sir Morell (1837-92), an eminent English physician, born at Leytonstone, Esex. and educated professionally at the London Hospital Medical College, Paris, and Budapest. At the London Hospital he held also belong to this family. Th his best-known work, The Man of with other fishes, and their temperabladder; S. pneumatophorus has an air-bladder. Thynnus, the tunnies, also belong to this family, Th. thinning, the largest species, reaching a length of 10 ft.; Th. pelanys, the bonito, pursues flying fish, and other species of this genus are provided with long pectoral fins and are called by sailors 'albacores.' Allied genera include Pelamys, Cybium, Acanthoand Rhachicentron. cubium. Fossil forms of Scombride are found in the Eocene and Miocene strata

Mackinac, the name of the strait which separates Lakes Michigan and Huron in N. America. Mackinac Is. stands in the strait, its chief town being Mackinac, a resort during the summer months. about 1200. M'Kinley, Pop. (of town)

Alaska, N. Án

point in that height of over 20,000 ft., with glaciers on every side. Dr. Cook laid claim to having ascended the mountain in 1906, but in June 1913, a party led by Archdeacon Hudson Stuck accomplished the feat.

M'Kinley, William (1843-1901), the 25th president of the U.S.A., born at Niles, Ohio. When the Civil War broke out, he enlisted as a private in the Ohio volunteer infantry. the end of the war he returned home to study law. He identified himself rebels in the insurrection of Upper to study law. He identified himself Canada. They were, however, utterly with the Republican party, and rapidiv became known as an able speaker. In 1876 he was elected to Congress; here his keen protectionist views and his hard work and enthusiasm made him a marked man. In 1889 he was Republican leader in the House of Representatives, and chairman of the Committee of Ways and Means; as such he introduced and carried the great Tariff measure of 1890, known as the M Kinley Tariff. In 1891 became governor of Ohio, which he held till 1895. In 1896 he was elected president of the republic, and again in 1900. The Spanish-American War was the chief event of his first term of office. He visited the city of Buffalo (New York) to deliver a public address, a great reception was held for the president on the day following. A Pole, Leon Czolgosz, fired at the president with a revolver. He died from the effects of his wounds a few days later. His assassin was said to be an anarchist, and was executed in October 1901.

Mackintosh, Sir James (1765-1832), a philosopher, studied medicine and took his degree in 1787. Eight years later he was called to the bar, and from 1818 until 1824 was professor of law and general politics at Haileybury. For several years he sat in the House of Commons. He became known in 1791 through his Vindiciæ Gallica, which was a reply to Burke's Reflections on the Revolution in France. He was the author of many works,

writings. There is a biography by his son, R. J. Mackintosh, 1836.
Macklin, Charles (1697-1797), an actor, began his theatrical career about 1725, and in his profession attained to a high position, one of his most successful impersonations being States. He acted meinly at Cayent Shylock. He acted mainly at Covent Garden until his retirement from the stage in 1789. He wrote many plays, and produced most of them himself. In 1759 he produced Love à la mode at Drury Lane, in which he acted with his daughter Charlotte. This and The Man of the World, played at

The Man of the World, played at Covent Garden in 1781, were his most successful plays. There are biographies by F. A. Congreve (1798), and Judge Parry (1891).

Macknight, James (1721-1800), a Scottish clergyman, a native of Irvine, Ayrshire, was educated at Glasgow and Leyden. In 1753 he was ordained minister at Maybole, Ayrshire, and finally became a minister in Edinburgh (1772). His chief works are: A Harmony of the Four Gospels, 1756; The Truth of the Council History of all the Apostolica of all the Apostolica

Maclagan, William Dalrympie (1826-1910), an English ecclesiastic, born in Edinburgh, and educated at Edinburgh and Cambridge. He began his career in the Indian army from 1847-52, and after being ordained to the ministry was made rector of Newington, then vicar of St. Mary Abbot, Kensington, and in 1878 bishop of Lichfield. In 1891 he was appointed to the see of York. Among his literary works may be mentioned his Pastoral Letters and Synodal Charges, 1891, and his joint editor-ship of The Church and the Age.

Maclaren, Alexander (1826-1910), was a native of Glasgow. He was appointed minister of Portland Chapel. Southampton, in 1846, and of the Union Chapel, Manchester, in 1885. He wrote numerous books, most of them dealing with Bible subjects and explanations of the same. One of his chief works is Expositions of Holy

Scripture, 1904-10.

Maclaren, Ian, see WATSON, REV.

JOHN. Maclaurin, Colin (1698-1746), a Scottish mathematician, was a native of Kilmodan in Argyllshire. He was educated at Glasgow University, and in 1717 was appointed professor of mathematics at Marischal College, Aberdeen, and in 1719 while on a visit to London, was made a member of the Royal Society. His next appointment was to the chair of mather at Edinburgh University in 1726. He was also instrumental in preparing the defences of Edinburgh against the Pretender in 1745. He followed closely on the lines of Sir Isaac Newton, and is remembered for his contributions to science with regard to the principles of fluxion which helped to explain the theory of which helped to explain the theory of the tides. Among his writings are: Treatise on Fluxions, 1742; An Account of Sir Isaac Newton's Philo-sophical Discoveries, 1748. Macle, in crystallography, a term used for the phenomenon otherwise known as twinning. This occurs when two crystals have a common face and

two crystals have a common face and are so disposed that one may be brought into the position of the other by rotation about an axis called the The term was twin-axis. generally used, but is now only found with any frequency among French writers. The mineral known as chiastolite, consisting of aluminium silicate with magnesium and iron, is

also called M. It is commonly used for making beads for rosaries.

M'Lean: 1. A tn. of Clarence co.,
New South Wales, on the Clarence R.,
28 m. N.E. of Grafton. Pop. 1500. 2.

**co. of Dakota, U.S.A., having for western boundary the R. Missouri.
Modeon Krid Covert. Ein Lover. Maclean, Kaid, General Sir Harry

Aubrey de (b. 1848), a son of Andrew M. of the Macleans of Drimnin. He became instructor to the Moorish carmy, under the late Sultan, and accompanied him on his expeditions. Later he became colonel of the Sultan and of Morocco's bodyguard, and in July 1907, while on a mission for Morocco's high subject of the sultan and the subject of 1907, while on a mission f. Sultan, was captured by Rais held prisoner for seven mon was released on a ransom of and decorated by the British

ment for services rendered. Macleania, a genus of trubs (order Vacciniacem) trailing sdundsyellow and scarlet cylindrical flowers, in greehouses in hanging

grown baskets.

Maclehose, Mrs. Agnes (1759-1841), was a native of Glasgow. She was separated from her husband, and at Edinburgh became acquainted with Robert Burns, who wrote to her as 'Clarinda,' and dedicated lyrics to her. Their correspondence was after-

wards published.

M'Lellan, George Brinton (1826-85), an American general and politician, born at Philadelphia, and graduated at West Point in 1846. He served in the Mexican War of 1847-48, and after being instructor at West Point, and exploring Red R. and Texas, he was sent to Europe in 1855 to report on military systems as observed during the Crimean War. His report, entitled The Armies of Europe, published in 1861, was a brilliant work. On the outbreak of the Civil War he joined the North. His success in winning over Western Virginia led to his appointment as commander of the army of the Potomac, which he organised, and with which he captured Yorktown in 1862. He was general-in-chief of the armies from 1861 to 1862, when he defeated Lee at Antictam. Lincoln then relieved him of the chief command, and he resigned his commission in 1864. In the same year he was the defeated Democratic candidate for the presidency, and was governor of New Jersey from 1878 to 1881. He died at Orange in See his book entitled New Jersey. M'Lellan's Own Story, 1886.

M'Lennan, John Ferguson (1827-81), a sociologist, born at Inverness, and educated at King's College, Aberdeen, and Trinity College, Cambridge. In 1857 he was called to the bar, and for a time filled an appointment as draughtsman of Scottish parliamentary bills. He spent a great deal of time in research work on the custom re, and is the o the origin of

in Marriage Ceremonies, 1865; reprinted in Kin-

ship in Ancient Greece. Macleod, Henry Dunning (1821-1870 he was

MacMahon

4; A History of Banking in Great Britain, 1896; Indian

Currency, 1898. Macleod, Norman (1812-72), a Scottish author and minister, a native of Campbeltown, Argyllshire. He was educated at Glasgow University, and studied divinity in Edinburgh, becoming a minister at Loudon in Ayrshire (1838). In 1843 he went to Dalkeith, and in 1852 to the Barony Church, Glasgow, as minister. In 1857 he became chaplain to Queen Victoria. Among his literary works are: Eastward, 1866; and Peeps at the Far East, 1871; as well as articles in Good Words, which he edited (1860 et sea.). See Memoir by Donald M., 1876.

Maclise, Daniel (1806-70), a painter, came from Cork to London in 1827, and acquired fame as a portraitpainter. He was elected a member of the Royal Academy in 1840, and sub-sequently refused the presidency of that institution. In the late fifties he painted two magnificent frescoes in the Royal Gallery of the House of Lords. He is, perhaps, most popularly known for the long series of character sketches of notable folk which he contributed to Fraser's Magazine, (1830-38), which have been collected under the title of The Maclise Portrail Collection trait Gallery.

aurantiaca, or Osage hardy deciduous spiny Maclura Orange, a hardy deciduous spiny tree, with bright green, egg-shaped leaves and heads of inconspictous flowers, which are followed in its N. American home by large orange-like fruit; its slimy juice was used by the N. American Indians to smear their

faces. MacMahon, Marie Edmé Patrice Maurice de (1808-93), Duke of Ma-genta, and marshal of France, and second president of the third republic, born at Sully, Seine-et-Loire, France, of Irish descent. Graduated at the military school of St. Cyr, and served in the Algiers campaign of 1830. In 1835 he went to the Crimea, and took part in the operations against Se-

successfully

assaulting

Malakoff. On the outbreak of the war with Austria himself at th again at the

bastopol,

and at Worth. In 1871 he was called to the army of Versailles to recover Paris from the commune, and on Thiers' resignation in 1873, he was rights in books of this class. A great elected president of France, resigning six years later. Consult Daudet, Le maréchal de M'Mahon, and Lafarge, Histoire complète de M'Mahon.

MacMaster, John Bach (b. 1852), an American historian and engineer, born at Brooklyn, New York, and educated at the college of New York, where he afterwards became instructor of English. From 1877-83 he was instructor of civil engineering in Princeton University, and then became professor of American history at the Pennsylvania University. 1905 he became president of the American Historical Association. His publications include: History of the People of the U.S. (8 vols.): Bridge and Tunnel Centres; Benjamin Franklin as a Man of Letters; With the Fathers, etc.; and he is a contributor to cointific principles. to scientific periodicals, and to the Cambridge Modern History.

Cambridge Alogern History.
Macmillan, a well-known English publishing house, founded at Cambridge in 1844 by the brothers Daniel and Alexander M. In 1857 the elder brother died and the business was carried on by Alexander alone. He transferred it to London in 1858, and with the increase of trade, opened a branch in New York (1869). F. O. Macmillan, a son of Daniel, subsequently became director of Macmillan & Co., Ltd., London, and of Macmillan & Co., New York, and G. A. Macmillan, a son of Alexander became a member of the firm in 1879. In 1893 the business was converted into a limited liability company. In 1901 a publishing centre for India. Burma, and Ceylon was started in Bombay. Among the firm's literary undertakings are the Golden Treasury Series, and the Globe editions.

Macmillan, Alexander (1818-96), a founder of the well-known publishing firm of the name, and a publisher of the 'old school,' whose intimate association with the literary men of his time has been made the subject of a memoir. He was of Scottish birth, and after some provincial experience, he opened a publishing business with his brother Daniel, which has now a world-wide reputation.

Macmillan, Daniel (1813-57), the elder brother of the above and senior partner of the business of the name which was afterwards so successfully carried on by Alexander M. He began life as an assistant to a bookseller in Cambridge, in whose house he learnt his trade and acquired a taste for literature. M. combined a keen commercial instinct with a genuine love of books for their own sake.

ness was the publication of Kingsley's works and Tom Brown's Schooldays.

Macmillan, Hugh (1833-1903), a Scottish author and divine, a native of Aberfeldy, and was educated at Edinburgh University. He was minister of the Free Church at Kirkmichael, of St. Peter's Church in Glasgow, and of the Free West Church, Greenock (1878-1901). He wrote: First Forms of Vegetation, 1861; Bible Teachings in Nature, 1867; The True Vine, 1871; The Poetry of Plants, 1902; The Touch of God and other

Sermons, 1903. Macmonnies, Frederick (b. 1863), an American sculptor, born in Brooklyn, New York. At the age of seventeen he was apprenticed to A. St. Gaudens, and in 1884 he went to Europe and studied under Falguière in Paris, opening a studio of his own within the of a couple of years. His statue of 'Diana' was honourably men-tioned in the Salon of 1889, and his 'Bacchante' (Salon, 1894) was pur-chased for the Luxembourg. Specimens of his work are the Washington Memorial Arch, New York city; 'Nathan Hall'in City Hall Park; Prospect Park, Brooklyn (statues), and 'Sir Harry Vane' in the new Boston Public Library. He is also a skilful painter.

Macnaghten, Sir William Hay (1793-1841), a diplomatist, educated at Charterhouse, he went to India (1809) as a cadet under the E. India Com-pany. He devoted himself to the study of oriental languages and customs, and published several works on Hindu law. M. was appointed gover-nor of Bombay, September 1841, but before he could assume office he was

murdered by the rebel Afghan chiefs on the Seeah Sung plain.

Macnamara, Thomas James Macnamara, Machania, (b. 1861), an educationame. (b. 1861), an educationame. and politician, born at Montreal, and educated at St. Thomas's School, Exeter. From 1876-92 he was a Fracter. Huddersfield, and based. From 1870-92 he was a teacher at Exeter, Huddersfield, and Bristol, and in 1896 became president of the National Union of Teachers. At the General Election of 1895 he contested Deptord (Radical), and in 1897 became 1907 became parliamentary secretary to the Local Government Board, being transferred to the Admiralty in 1908. He has published many books on educational methods: Schools and Scholars; Schoolmaster Skelches; Tariff Reform and the Working Man, etc., and is a constant contributor to magazine and delicontributor to magazines and daily The journalism.

sottish poet; passed his early youth S. Pacific, belongs to New Zealand, in the neighbourhood of Loch and is a centre for seal feeling. Lomond, but afterwards had an adventurous career in the British West Indies. Much of his life was spent in Jamaica, and towards the end he retired to Edinburgh, where he died. M.'s chief work is Will and Jean, but his songs are even better remembered.

MacNeill, John Gordon Swift (b. 1849), an Irish politician, born at Dublin, and educated at Trinity Dublin, and educated at Trinity College, Dublin, and Christ Church, Oxford. From 1882-88 he was professor of constitutional and criminal law at King's Inn, Dublin. Took silk in 1893, and in 1996 was commended by Campbell Bannerman in the House of Commons for procuring the abolition of flogging in the navy. Since 1887 he has represented S. Donegal as a Nationalist. He has published: The Irish Parliament, what it was and what it did; Titled Corruption: English Interference with Irish Industries, etc.

ounty seat of is, U.S.A., 60 m. engaged chiefly in the manuf. of stoneware.

(1910) 5774.
Macon: 1. The cap. of the dept. of Saône-et-Loire, France, on the R. Saône, and at this particular spot the river is crossed by a bridge of twelve arches. The interesting features of the town are the ruins of a cathedral and the church of St. Peter in Romanesque style, ancient name was Matisco, and it was the birthplace of Lamartine. It trades chiefly in wine. Pop. 19,000. 2. The cap. of Bibb co., Georgia, U.S.A., on the Ockmulgee R., 80 m. S.E. of Atlanta, and is a great railway centre. College, t also

manufs, flour and iron goods. Pop. (1910) 40,665.

Macpherson, James (1736-96), a man of letters, began at an early age to write poetry. In 1762-63 he published two poems, Fingal and Temora, which he stated were translations from the Gaelic of Ossian. The works attracted much attention, but presently the critics cast doubts upon the source, and a prolonged con-troversy took place. M. seems not to have been seriously concerned at the charge of forgery, and made no parti-cular effort to rebut it. M., in 1775, edited Original Papers containing the Secret History of Great Britain from the Restoration to the Accession of See Boswell's Johnson, George I. passim.

Macquarie: 1. A bay of Tasmania, on the W. coast; forms an im-rhynchi.

170 sq. m. 3. A riv. of New South Wales, formed by the junction of the Fish and Campbell streams, and after a course of 350 m. joins the Darling R.

Macrauchenia, an extinct animal with horse-like skull, tapir-like nasal bones, llama-like neck, and teeth partly horse-like and partly rhinoceros-like; found in S. American

later tertiaries

Macready, William Charles (1793-1873), an actor; made his first appearance in the provinces in 1810, and six ance in the provinces in 1810, and six years later played in London, where his Richard III. made him popular. He held a high position in his profession until his retirement in 1851. A great, powerful, and intelligent actor, he was not an amiable man, nor happy, as may be gathered from his Diary, a new edition of which appeared in 1912.

Appeared in 1912.

Macrinus, M. Opilius Severus, Emperor of Rome (217-218 A.D.), born at Cæsarea, Mauritania, 164 A.D., of humble parentage. At the instigation of his patron, Plantianus, he was admitted to the service of the Emperor Septimus Severus, and after receiving several appointments of trust, eventually became prefect of the prætorians, under Caracalla, an office in which he acquitted himself prudently and honourably. On the death of Caracalla he was proclaimed emperor. He eventually met his death at Cappadocia, and was succeeded by Elagabalus.

Macrobius, Ambrosius Aurelius Theodosius, a Roman grammarian whose period is uncertain, but who probably lived about the beginning of the 5th century. Only a comparatively small number of his works are extant, amongst which are a commentary on Cicero's Dream of Scipio, and a collection of essays, Saturnaliorum conviviorum libri sep-tem, the latter incomplete.

Macrodactyles, a sub-order or tribe of the order Grallatores, wading birds, characterised by the four elongated toes on each foot. M. includes the rails, waterhens, and coots. The name Macrodactylus was formerly given to a genus of lamellicorn beetles, now merged in Scarabeidæ.

Macroom, a tn. in co. Cork, Ireland, on the R. Sullane, 20 m. W. of

Cork. Pop. (1911) 3800.

Macropodians, or Macropodidæ, a family of marsupials or pouched animals with large powerful hind feet, comprising all the kangaroos. The name is also given to sea spiders and spider crabs, a family of Oxydecapod crustaceans, characterised by long, broad-swimming tails, and including the lobsters, crayfish, prawns, and shrimps.

Macrozamia, a genus of tall ever-green perennials (order Cycadaceæ) with long, leathery, graceful palm-like leaves and bearing scaly ovoid cones. They grow well but slowly in a green-

house, needing liberal watering MacTaggart, William (1835-1910) an artist, the son of a crofter, and born in Argyll. His father apprenticed him as dispenser to Buchanan, who encouraged his talent for painting and gave him an introduction to Daniel Macnee. On the latter's recommendation, M. was admitted a pupil at the Trustees' Academy, Edinburgh. He first ex-hibited at the Scottish Royal Academy in 1855, and afterwards was frequently represented at the Royal Academy, London.

Mactan, a prov. of the Philippines, consists of a small coral island off the coast of Cebú. Magellan was

killed here in 1521.

a genus of widely distributed bivalve molluscs, living just below the surface of sandy coasts. The foot is large and tongue-shaped; the syphons are joined together and fringed at the ends; the shell has a deep pit to which the internal ligament of the hinge is attached. shell is triangular in form and almost equilateral. It bears a resemblance to a kneading trough, hence the generic name.

MacWhirter, John (1839-1911), a Scottish painter, born at Inglis Green, near Edinburgh. He was a pupil at the art school of the Board of Manufacturers, Edinburgh. He took up his abode in London in 1869, and in 1877 visited the United States and painted many fine pictures depicting the scenery of California. In 1879 he was elected an A.R.A. and in 1894 an R.A. The most characteristic of his works are his noble Highland landscapes, portraying the rugged grandeur and heauty of the moors. Perhaps his best-known picture is 'June in the Austriau Tyrol' in the Tate Gallery, London. Other examples of his work are: 'Loch Katrine,' 'The Lord of the Glen,' 'The Silver Strand,' 'The Track of the Hurricane,' etc.

Madagascar, an island lying off the S.E. coast of Africa, about 250 m. from the mainland, from which it is separated by the Mozambique

Macroura, or Macrura, a group of terior is traversed by a mountain range, rising in some places to over 10,000 ft., from which numerous rivers flow E. and W. Extinct volcanoes and hot springs are found in various parts of the island, the highest peak being Ankarabra (over 9000 ft.) in the N.E. The chief harbours are Diego Suarez, Tamatave, Antongil Bay, Nosse Bé, Port Antongil Bay, Nosse - Bé, Port Radama, and the bays of Betsitoka and Bombeloke (or Majunga). Vegetation is luxuriant, and the island is clothed in many districts with dense forests which supply valuable timber, such as ebony, mahogany, rosewood, etc., besides raffia palms, gums, and rubber trees. Many rare varieties of orchids and ferns are found, and a peculiar feature is the traveller's tree (Ravenala madagascariensis). Fruits abound, and include mangoes, tamarinds, bananas, lemons, bread-fruit, and ground nuts, and coffee, cocoa, sugar-cane, hemp, and vanilla are cultivated to a considerable extent. The climate is salubrious for about half the year, but during the rainy season it is unhealthy for Europeans. The highest mean temperature (80°) occurs at Diego Suarez, and the average rainfall is about 28 in., but in the S. it may exceed 40 in. Hurricanes and thunderstorms are prevalent and severe. The country is rich in minerals, gold, manganese, lignite, silver, zinc, antimony, copper, iron, lead, and precious stones being found, but the resources are practically undeveloped. The fauna includes many curious animals, such as the aye-aye and lemur, but is devoid of the larger carnivora. There are over 240 species of birds, many of brilliant plumage, and also several varieties Fossils of extinct of chameleons. animals, birds, and reptiles have been found, including the Æpyornis, nound, including the Appornis, Mullerormis, hippopotami, and a gigantic dinosaur. The chief exports consist of animal products, rubber, hides, live animals, fibres, textiles, grains, and gold, and amount to nearly £2,000,000 annually, while the imports reach a total of £1,500,000. There are very few good roads, but there is railway communication between Antananarivo, the capital (pop. 94,813), and Brickaville on the E. coast, which is being extended to the port of Tamatave. From this town there is also a line to Irondra. Palanquins are used as a means of conveyance for short distances. The population is made up of many different tribes, the Hovas being the is separated by the Mozambique different tribes, the Hovas being the Channel. It is 980 m. long and its chief. They present many character-extreme width is 360 m., with an area of 228,000 sq. m., excluding dependent islands. It is the third tioned, and active in habit. They inlargest island in the world. The inchief. They present many characteristics of the South Sea islanders; are

profess Protestant Christianity as contributions to paleographic literatheir religion, but retain many of their old-time superstitions and customs. The Hovas differ considerably conjunction with Josiah Forshall, from the other tribes-the Sihanakas, Tharas, Betsileos, and the Sakalavas,
—whose features are African. Pop.
of island 3,054,658. M. was known
to Ptolemy under the name of
Menuthias, and it is certain that
there were Arab settlements over a thousand years ago, for traces of Arab occupation are evident to-day in the Malagasy language. Marco in the Malagasy language. Marco Polo mentioned it, but the first known European to land on its shores was Diaz, the Portuguese, who visited the island in 1500. Later the Dutch and then the French established small ports in different parts of the country, which was ultimately brought under French control in 1896. Queen Ranavalona III. was deposed and exiled to Algeria. She had reigned since 1883. The island is now administered by a governor-general. In nineteen provinces there are civil administrators, and in five provinces military officers conduct affairs. Natives are employed in minor ports in both military and civil govern-ment. Education is now compulsory between the ages of eight and fourteen. Since the French occupa-tion of 1896 the country has con-tracted a debt of £4,200,000, mainly

for the purpose of public works.

Madaras: 1. A vil. of Hungary in
the comitat of Bács-Bodrog, 41 m.
S.W. of Szegedin. Pop. 5000. 2. A
vil. of Hungary in the comitat of Great Cumania, a few miles S.E. of

the Theiss, Pop. 8000. Madava Rao, Sir Raja T. (1829-91), during the minority of the Gaekw He displayed the most broad-mind and liberal views, although he mained a faithful Brahman and e

mote social and political reforms. Maddaloni, a th. of Italy in the prov. of Caserta, 15 m. N.N.E. of Naples; it is supposed to be built on the site of the ancient Suessula. There is a splendid aqueduct near by, which was built by Charles III. to convey water to the cascades in the gradens of Casertia Day 21 600.

all in his power to encourage and pro-

gardens at Caserta. Pop. 21,000. Madden, Sir Frederick (1801-73), an archeologist, devoted himself to the study of Norman, French, and Annuscripts Saxon, and collated the manuscripts for the University of of Cædmon for the University of 13.500.

Oxford, 1825. He was keeper of the manuscripts at the British Museum, land, stands on the Severn, 14 m. 1837-66. He made many important E.S.E. of Shrewsbury. It has coal

Wichi's Bible, 1850.

Madder, the name given to several species of the genus Rubia. Dyers'
M. (R. tinctorum) is a trailing or climbing annual, and its root from only the several seve early times has been extensively used for the production of a wide range of dyes, notably Turkey red, all of which are very stable. Synthetic dyes have now almost entirely superseded

it. See Rubia.

Madeira, the only important island of an archipelago of volcanic origin, situated some 400 m. from the N.W. coast of Africa. M. is one mass of basalt, rising with a steep ascent from S. and N. towards the interior, the highest point being Red Peak (6165 ft.). The declivities of the mountain masses are furrowed by deep and generally narrow valleys and depressions, traversed by streams of clear water. The coast-line is bold and rocky, with good natural har-bours. The climate is remarkably mild and equable, and for this reason M. is much resorted to by consumptive invalids, especially from England. The soil is fertile, and there are vineyards and orchards, producing choice wines and fruits, but the vineyards, once very extensive, have at times suffered greatly from the ravages of the oldium, and in late years sugar plantations have to a considerable extent replaced them. Cochineal is also an important product. The commerce with England is considerable, the principal export being 'Madeira' wine. M. was discovered about 1420 by Zarco and Madava Rao, Sir Raja 1. (1025-01), an Indian administrator, was born covered about 1420 by Zarco and at Combaconum in Madras; prime soon afterwards settled by the Portuguista also acted for several years as administrator of the state of Baroda communication with Lisbon and

> Mageira Wine is manufactured in the Madeira Is. from a mixture of black and white grapes; when vinted separately these grapes produce Tinta and Verdelho wines. High-class Malmsey are also manufactured in Madeira. The vines were brought from Cyprus or Crete in the 15th century; in 1852 they were totally destroyed by the oldium disease, but

and iron mines, and iron foundries. Pop. (1911) 3006.

Madhava Acharya (Hind., spiritual teacher), a Hindu scholar and philo-sopher, lived in the 14th century under King Bukka, to whom he acted as chief minister and spiritual adviser. He became abbot of the monastery of Sringiri, and wrote many im-portant books on Hindu mythology and philosophy.

Mādhopur, India, a vil. in the Gurdāspur dist., Punjab, near the head-works of the Bari Doab Canal.

head-works of the South Pop. 1360.

Madhubani, India, an important trading centre in the Darbhanga dist., Bengal, and was constituted a municipality in 1869. Pop. 18,000.

Madhusudana, Datta (1824-73), a Hindu poet, born at Sagandari, Bengal, and became a Christian convert in his youth. He translated vert in his youth. He translated several of Shakespeare's plays into Hindustani, under the name of Michael M. S. Dutt, and was the author of Sermistá, Ralnavali, and other classical dramas.

Madison: 1. The cap. of Wisconsin. U.S.A., stands on an isthmus between lakes Mendota and Monona, 82 m. W. of Milwaukee, in the middle of a beautiful valley. It contains the state capitol, university, and other important buildings, and has manufs. of machinery, boots and shoes, farming implements, etc. Pop. (1910) 25,531. 2. The cap. of Jefferson co., U.S.A., stands on the Ohio R., 86 m. S.S.E. of Indianapolis. It has flourmills, breweries, pork-packing fac-tories, etc. Pop. (1910) 6934. 3. A bor. in Morris co., New Jersey, stands on the Lackawanna R., 26 m. W. of New York. It is the seat of the Drew Theological Seminary, and is famous

Theological Seminary, and is tanious for its rose-culture. Pop. (1910) 4115.

Madison, James (1751-1836), the fourth president of the U.S.A., born at Port Conway, Virginia: graduated at Princetown (1772), and afterwards studied law. He was appointed a Virginia Convention member of the Virginia Convention (1776), and thenceforth devoted himself to politics. In 1784 he was elected to the Virginia Congress and became a zealous advocate of religious free-M. was also instrumental in forming the convention of 1787 which drew up the Federal Constitution, and was elected to the first national Congress. He became a leader of the Republican party, and held the post of Secretary of State during Jefferson's presidency. was elected president in 1809, and his period of office was a stormy one, its chief event being the war with Eng-land (1812-14). In 1817 he retired to his seat at Montpelier, Virginia, where he remained until his death.

Madison River, one of the head-streams of the Missouri, rises in the Rocky Mts., Montana, and has a course of 230 m.

Madisonville: 1. The cap. of Hopkins co., Kentucky, U.S.A.; has coal mines, tobacco factories, lumber mills, etc. Pop. (1910) 6241. 2. A tn. of Hamilton co., Ohio, U.S.A., 9 m. N.E. of Cincinnati. Pop. (1910) 5193.

Madness, see INSANITY.

Madoc, or Madog, the second son of Owen Gwynedd, Prince of Wales. Lived in the 12th century. According to a Welsh legend, he is said to have discovered America about 1170, at which time he was forced to fly from Wales on account of a rebellion against his dynasty, which proved successful. He is believed to have sailed on a second voyage of discovery, since when he was heard of no more. His story forms the subject of a poem by Southey, entitled Madoc, 1805.

Madonna (It. for 'Our Lady'), a title reserved in the Roman Catholic Church for Mary, the mother of Jesus. She was the wife of Joseph, a carpenter of Nazareth. At His crucifixion, Jesus commended His mother, At His cruciwho was present, to the care of John the Apostle. The mention of 'the brethren of the Lord 'indicates that she had other children. According to apocryphal legend, she was the only child of Joachim and Anna, and on her death was borne up to heaven in a blaze of light. This miracle is annu-ally celebrated on Aug. 15, in the great Feast of the Assumption. Other feasts of the Virgin are the Presenta-tion (Nov. 21), the Conception (Dec. 8), the Purification or Candlemas, the Annunciation (Dec. 18), the Visita-tion (July 2), and the Nativity of Mary (Sept. 8). The Annunciation the commemorates visit of commemorates the visit of the archangel Gabriel, who brought the tidings of the birth of Our Lord, and the Visitation the visit of the Virgin to the aged Elizabeth. The doctrines of the 'Immaculate Conception,' or the sinlessness of Mary, and of her perpetual virginity (de naglería), were not formally acknowledged by the church till the 5th century A.D. Inasmuch as Mary is the 'Mother of God' (Θεοτόκος), she has been exalted, and has grown to be the object of profound popular devotion; for by virtue of her motherhood she is deemed the supreme intercessor with her Son. The countless paintings, images, and statues of the 'Madonna and Child' are all inspired by the thought that through the Virgin the human touches the divine.

Madox, Thomas (1666-1727), legal antiquary; was admitted to the Middle Temple, but never called to the bar. He wrote many valuable

jects, notably Formulare Anglicum, or a Collection of Charters, 1702; History of the Exchauer, 1711; Firma Burgi, 1726; and Baronia Anglica, 1736. He was appointed historiographer royal (1714).

Madras: 1. A presidency of British India, occupying, with the exception of Mysore and Coorg, the whole of the southern peninsula. Northward its boundaries, passing from W. to E., are N. Kanara, the district of Dhar-war, Haidarabad, the Central Prov-The coasts are inces, and Orissa. flanked by the Western and Eastern Ghats, which seem to be little more than hills, because between them the great central plateau reaches an ele-yation of from 1000 to 3000 ft. The highest peak is Anjinadi (8850 ft.) in Trayancore. The Nilgiri Hills are an offshoot of the Western Ghats. Between Nellore and M. on the E. coast is the Lake of Pulicat (37 m. long), whilst the narrow coastal strip on the W. has its shores indented by several lagoons, the largest of which is Cochin (120 m.). Along the Malabar coast there is an annual rainfall of 150 in., but the highlands intercept the rainclouds, so that on their landward side clouds, so that on their landward side the precipitation is as low as 20 in. It is below 50 in. in Madura and Negapatam, etc. Famines are comparatively frequent, but are more severe in the northern than in the southern interior, where rains pass over the Palghat Gap. The three chief rivers, the Godavari, Kistna, and Kaveri, all rise in the Western Ghats, and after a southeastary course. and after a south-easterly course empty into the Bay of Bengal. The presidency consists of 141,726 sq. m. Of these 20,000 are forest lands, teak, foreign associate of the Beaux-Arts. ebony, and resewood being the trees | He painted many portraits of noted of highest commercial

million acres are sown (rice and millet, etc.); 2 sesamum and other oil

2,000,000 with cotton. bacco, tea, sugar-cane, and coffee are also grown. The chief exports, placed in order of value, are raw cotton, seeds, rice, and indigo. In 1911 the exports were estimated at \$14,000,000, and the imports at half that amount. There are five native totals and states and twenty-four districts. Pondicherri, Karikal, and Yanaon on the E. and Mahé on the W. coast belong to France. M. the capital, Godavari, Tinnevelly, and Negapatam are the chief ports, and other towns of importance are Trichinopoli, Tanjore, Calicut, Madura, and Salem. The staple industries are rice, tobacco, fish and coffee curing, and oil and indigo pressing. The natives speak the Dravidian dialects, Tamil, Telegu,

works on historical and legal sub- (41,405,404 in 1911) are Hindus, the remnant being Mohammedans and Christians. 2. Cap. of the M. Presidency, and, indeed, of Southern India, and the third largest scaport in the country. It stretches some 9 m. along the coast, and about half that discrete the country. tance inland. Though structurally the city does not present an imposing whole, the Government Senate House, cathedral, Scottish kirk, Pachayappa's Hall, and Chepauk Palace are all buildings of conspicuous architecture. Besides Presidency College-the headquarters of the university-there are six missionary and various law, medical, and engineering colleges. Both the Madras and Tan-jore and the Madras and Southern Mahratta lines have their termini here. Over half of the foreign trade of the presidency passes out through the port of M., but its volume is only one-ninth that of Calcutta. In George Town, the business quarter, there are cement and cigar manufactories, and cotton-mills, etc. M., or Fort George, cotton-mills, etc. M., or Fort George, as it was then called, was founded by English factors in 1640. It was taken by the French under La Bourdonnais in 1746, but given back two years later by the treaty of Aix-la-Chapelle. During the Seven Years' War it was again blockaded by the French, this time under Lally, but the siege ended in failure (1758). Pop. (1911) 518,660.

Madrazo y Kuntz, Federico (b. 1815), a Spanish historical portrait painter, son of the painter José de M. He studied at Paris under Winterhalter, and then became court painter at Madrid and professor at the Madrid Academy. In 1873 he was made foreign associate of the Beaux-Arts,

Indigo, to Jerusalem, and 'Maria Christina as a Nun.

Madre de Dios: 1. A riv. in S. Madre de Dios: I. A riv. in S. America, rises in Peru, flows through Bolivia, and joins the Beni near its junction with the Mamoré. The total length is about 850 m.. most of which is navigable. 2. An archipelago in W. Patagonia, S. America: is separated from the mainland and from the idea of Chethward Man. from the islands of Chatham and Hanover by Concepcion Strait.

Madrepora, a genus of white stony corals, found from water-level down to great depths in the sea. The common M. of the Devonshire coast is Caryophyllia Cyalhus. See CORAL.

Madreporite, a structure possessed by certain cchinoderms, as the starfish and sea urchin. It consists of a etc. Nine-tenths of the population plate perforated with numerous small water-vascular system.

Madrid, the cap. of Spain and of the prov. of Madrid. The latter occupies the eastern and southern slopes of the Guadarrama Mts., stretching towards Toledo. The Tagus forms the southern boundary irrigation. The forests in the northeastern part of the province provide good timber; in the south-eastern ways of the country converge in this province. Its area is 3084 sq. m.: pop. 845,405, 571,539 of whom live in the city of M. The city is built on an elevated plateau merging into the table-land of New Castile. The climate is healthy, but oppressively hot in the summer and bitterly cold in the winter. The central part of the city is almost a square, for-merly surrounded by a wall with five gates and eleven doorways, of which three only still exist. The Puerta del Sol forms the centre of M., the largest of all the plazas, with ten streets leading from it. A great deal of the city is very fine, with well-built houses and broad streets; it is the largest city in Spain, the chief residence of the king, the meeting-place of parliament, the see of an arch-bishop, and the seat of a university. Among the chief buildings are the royal palace, occupying the site of the ancient Moorish citadel: it is built in the Tuscan style of white granite: to the S. of the palace lies the armoury, containing one of the finest collections in existence; the containing one Royal Picture Gallery, adjoining the Salon del Prado, contains nearly 2000 pictures, including works by Titian, Raphael, Velasquez, Vandyck, etc.; Biblioteca Nacional, founded the 1866, contains the national library, over 600,000 volumes 30,000 MSS., also the archæological museum and the fine arts academy of San Fernando. The churches are not of great architectural merit. The in-

them Majrit. In 1083 Alphonso VI. captured it from the Moors. Charles resided there frequently, and Philip II. made the city his capital in 1560 and held his court there.

Madridejos, a tn. of Spain in the prov. of Toledo, and 36 m. S.E. of islands adjacent, 1,773,948.

pores, and serves as the opening of the | Toledo. There is a wine-growing industry and a trade in leather. Pop. 7000.

Madrigal, a short lyrical poem adapted to the quaint and terse expression of some pleasant thought, generally on the subject of love. The proper M. consists of three verses or for some distance. The soil is not stropnes, generally bound apparticularly fertile, the rainfall is rhymes; but the name is sometimes and the rivers are used for applied to little love-poems of any form. Among the Italians the best writers of Ms. are Petrarch and Tasso: grown. The Sierra de Guadar- Ziegler, Voss, Manso, Goethe, and and gypsum. Most of the great rail- lish, the poets of the Elizabeth Caroline ages, such as Lodge, Withers, Carew, and Suckling. The musical M., a piece of vocal music of a corresponding character, was a simple song sung in a rich artistic style, but afterwards with an instrumental accompaniment, and originated with the Flemings about the middle of the 16th century. It went out of fashion about the beginning of the 18th century, but the later glee is a similar composition. The English madrigalists are especially famous.

Madron, a par. and tn. of Cornwall, England, in the St. Ives div., 1½ m. N.W. of Penzance, which is included

in the parish. Pop. (1911) 3703.

Madrona Tree, or Arbutus Menziesii, a Californian evergreen (order The smooth trunk and Ericaceæ). branches are brilliant maroon, the large leaves are dark green, and the flowers, which are borne in masses, are wax-white; they are followed by loose clusters of scarlet berries. The tree is slow growing, but attains a height of about 100 ft. The wood yields a fine charcoal.

Madura: 1. A dist. of India in the Madras Presidency, bounded on the E. by the Gulf of Manaar. The chief city, Madura, situated on the S. bank of the Vaigai R., was for more than 2000 years the religious capital of the Carnatic, and its rulers are spoken of by the ancient Greek geographers. The walls of its ancient fortifications remain, and a large palace, or great temple with pyramidal towers, with numerous Hindu edifices, attest the former magnificence of the place. Pop. of city, including cantonment, 134,130. 2. An island and residency of the Dutch East Indies, separated from Java by the Surabaya Strait. It is mountainous and not particularly fertile, but possesses salt-mines and large tracts of timber. The only navigable river is the Maringan, and the principal ports are Bangkalau, Sumenep, and Pamekasan. Pop., in-cluding that of the numerous small

philosopher, statesman, and classical Ulpianus, and Paulus. scholar, chiefly known for his editing of Cicero, Livy, Lucretius, and for his Greek and Latin grammar books for schools. Born in Svanike, on the island of Bornholm, Denmark, he was educated at Frederiksborg (1817) and at the university of Copenhagen dangerous in winter, especially when (1820-25). F fessor of the L

ture at Cone politician M. was minister of educa- to engulf ships at any time. This view tion (1848), director of public in-later president

in Ciceronis libros demica, 1826; Ad

orationum Verrinarum libros ii. ex-tremis, 1828; De Asconii Pediani commentariis in Ciceronis orationes, 1828; but revised the studies contained in this work in 1839, viz. Definibus bororum et malorum: Cate major et Lælius, 1835; Emendaliones Livianæ, 1860; Adversaria critica ad scriptores græcos et latinos (1871-84); Latinsk Sproglære til Skolebrug, 1841; and Græsk Ordföiningslære, 1846.

Maebashi, a tn. of Japan, 70 m. N.W of Tokyo, and noted for its silk trade. Pop. 33,000.

Mæcenas, C. Cilnius, a Roman eques, but descended both on his father's and mother's side from the Lucumones of Etruria. His paternal ancestors were the Cilnii, a powerful

ministers of Augustus, and enjoyed for many years the confidence of the latter. But towards the latter years of his life a coolness sprang up be-tween them, and M. retired entirely from public life. He died 8 n.c. The fame of M., however, rests mainly on fame of M., however, rests manny on his patronage of literature, especially of Virgil and Horace. Virgil was indebted to him for the recovery of his farm, which had been appropriated by the soldiery in the division of lands in 41 B.C.; and it was at the request of M. that he undertook the Georgies. To Horace M. was a still greater benefactor. He prea still greater benefactor. He pre-sented him with a farm in the Sabine country.

Lucius Volusius. Mæcianus. Roman jurist, who lived in the time of Antoninus Pius and Marcus Aurelius. He was one of the legal advisers of Antoninus, and one of the permi instructors of Aurelius in law. The writings of M., which are mentioned Thesi in the Florentine Index, are sixteen Manager of Manager writings of M., which are mentioned Thesis de Eclipsibus.

in the Florentine Index, are sixteen books on Fidei-commissa and fourteen on Judicia Publica. There are soft yellowish limestone occurring at forty-four excerpts from M. in the Maestricht in Holland. They are a

Madvig, Johan Nicolai (1804-86), a Digest. M. is cited by Papinianus.

Maelstrom (Danish malström. great whirlpool in the sea), usually associated with the celebrated whirlpool arising occasionally in a strong current off the island of Moskoe on the W. coast of Norway. It is very

ie tide. Formerly it was supposed it was always dangerous enough

was, of course, erroneous. Mænades, see RACCHÆ

ment. He was Mænura, Menura, Lyre-birds, or Deasants, are rare passerine birds, netives of Australia. le bas the long quill feathers ail extraordinarily developed; the two outer are curved outwards

and inwards like a lyre, the inner web being broad and the outer narrow. The two middle feathers cross at the base and diverge; the other twelve feathers have widely separated barbs without barbules. The species are M. superba, M. victoria, and M. alberti.

Maeriant, Jacob van (b. c. 1235), a Flemish poet of the 13th century, probably born on the island of Voorne. The founder of the didactic school of poetry in the Netherlands, he has been called the 'father of Flemish poetry.' His principal work is the Mirror of History, left uncompleted; and he also wrote Flowers of Nature; The Secret of Secrets; and a poon, The Lands over the Sea, a summons to the Crusades.

Masshowe, an earth-covered stone mound, in the island of Orkney, Scotland, 9 m. W.N.V. of Kirkwall. It is entirely artificial, and contains a central chamber, 15 ft, square, built of slabs and blocks of stone. It was first explored in 1861; but the carvings on the walls do not solve the mystery of its origin.

Maesteg, a tu. in Glamorganshire, Wales, 8 m. S.E of Neath. Chiefly engaged in coal-mining, and has iron-

works. Pop. (1911) 24,977.
Maestlin, Michael (c. 1542-90), a
German astronomer, born at Würtemberg. He settled in Italy for a time, where he became acquainted with Galileo. On his return to Germany he received the appointment professor of mathematics of of processor of manifematics at Tübingen, Kepler being one of his pupils: the historian Hallam de-scribes him as 'the illustrious master of Kepler.' M. believed in the Copernican theory. Among his works Epitome Astronomiæ,

chalk of Trimingham in Norfolk.

Maestro, a wind blowing from the N.W. around the Adriatic Sea, usu-ally in the summer, foretelling fine

weather.

Maeterlinck, Maurice (b. 1862), a dramatist and essayist of Flemish descent, born in Ghent, where he was educated at the university. Graduating as a barrister he went to Paris at the age of twenty-five, and came into touch with the French symbolists Villiers de l'Isle Adam, Le Roy, Verhæren, and Rodenbach, whose ideals won his sympathy and support. His wealth permitted him to abandon law and take up literature as his lifework, and the volume of verse en-titled Serres Chauds appeared in 1889, the play La Princesse Maleine appearing later in the same year. His works came in quick succession, the chief of them being: (Plays) L'Intruse; Les Aveugles, 1890; Les Sept Princeses, 1891; Pelléas and Mélisande, 1892; the famous 'marionette' plays (1894); Aglavaine and Selysette, 1896; Monna Vanna, 1902; Joyzelle, 1903; and L'Oiseau Bleu, 1909; and (Prose) a translation from Ruysbroeck (1891), and from Novalis and Ford (1895); Le Trésor des Humbles, 1896; La Sagesse et la Destinée, 1898; La Vie des Abeilles, 1901; Le Temple Vie des Abeilles, 1901; Le Temple Enseveli, 1902; and La Mort, 1912. His work is mystical to a degree, and has earned, needless to say, the scorn of Nordau and Tolstoi. Mirheau's fanatical critique of M. as a ' Belgian no longer calls for ould dis-Shakespeare ' · him one

al, most and strongest types of beautiful, and strongest types of genius. His essays show the influence chiefly of Emerson and Novalis, but his plays suggest a fatalistic turn of mind. They are studies in the psychology of terror, of despair, or of some such emotional phenomenon, devoid of action and of dramatic commonplace; they are not emin-ently suited for the stage, although they have often met with a good reception when staged. Debussy's setting of Pelléas is one of the greatest of modern operas. See works by Ed. Thomas (1911); Mde. Maeterlinck (Contemp. Review, Nov. 1910), and Arthur Symons, Symbolist Movement

in Literature. Mafeking, a tn. in the N. of Cape of Good Hope, and the centre of the protectorate of British Bechuanaland. Pop. (1904) 2713. It is situated in a gold-mining district. M. is particularly remembered in connection with

part of the uppermost subdivision of the siege it underwent during the fretaccous system, and abound in the remains of corals and Polyzoa. defended by Colonel Baden-Powell, in Britain they are represented in the due the fact that it was able to hold out against the investors for seven months, until it was relieved by Colonel Plumer with regulars and soldiers of the Rhodesian forces. The investment was followed with the closest interest in England, and on the receipt of the news of the relief London gave itself up to rejoicing of unaccustomed spontaneity. here Jameson in 1895 set out on his unfortunate exploit on behalf of the Reformers.

Maffei, Francesco Scipione Marquese di (1675-1755), a famous Italian scholar and author, born at Verona. He first adopted the military profession, but abandoned this for literature. His tragedy Mérope produced in 1713 was highly esteemed. In 1731 appeared his principal work, Verona Illustrata (2 vols.), treating of the origin, history, and literature of Verona. He also wrote Introduction to the Science of Mathematics. His complete works were published in 1790.

Maffersdorf, a manufacturing tn. of Bohemia, 57 m. N.N.E. of Prague. Has breweries and carpet works. Pop.

6908.

Maffia, a dangerous secret society of Sielly which, from one point of view, represents a 'sort of rough popular justice and a degenerate chivalry,' but which, in its worse aspect, is no more than a gang of criminals and ratteners opposed to all established order or government, and organised, like the Camorra, for the purpose of securing immunity for its members from the consequences of crimes.

Mafra, a tn. in Estremadura, Portugal, 18 m. N.W. of Lisbon. Noted for its great and beautiful pile of buildings erected in imitation of the Escorial of Spain by John V. in 1717-31. The buildings include a church, royal palace, monastery, and

college. Pop. 4800.

Magadha, in ancient India the name of the kingdom of Prasii, the capital of which, Palibothra (Sanskrit Pataliputra), was situate on the Ganges. The Greek knowledge of this kingdom was probably derived from the expedition of Seleucus against

Sandracottus, king of M Magadoxo, Mukdisha, or Mogdishu, a maritime tn. of Italian Somaliland, E. Africa. Has an active export trade and remains of mediæval Moham-

medan architecture. Pop. 10,000.
Magaldan, a pueblo of Luzon Is.,
Philippines, 19 m. from Bacolor. Pop. 16,000.

Magalhães, Fernao de, see MAGEL-

LAN, FERDINAND.

LAN, FERDINAND.
Magallanes, a ter. of Chili, comprising the whole of the coast strip S. of 47° S., i.e. between the Gulf de Penäs and Cape Horn, and all the islands except half the island of Tierra del Fuego and Staten Is. Mountains and forests occupy the verthern part decelets and straten. northern part; desolate and sterile pampas plains, abounding in lagoons and salt marshes, the southern part. Capital, Punta Arenas on Strait of

Magellan. Pop. about 18,000.
Magazines. This term is usually applied to periodical publications which deal with general or particular subjects in literature or art, and often contain stories and poems. The modern M. dates from 1731, when Cave published the Gentleman's Magazine, which continued until 1907. This was followed by the Scots Magazine in 1739, afterwards called The Edinburgh Magazine, and Blackwood's Magazine in 1817, the latter having a great influence owing to its criticism great influence owing to its criticism of the topics of the day. Fraser's March 1982, which lecame Long-with the first part of the 19th century that the price of Ms. was reduced from two shillings and sixpence to one shilling, the first one published at this price. the first one published at this price being Tait's Edinburgh Magazine (1832), thus marking a new era in their history. Among the other Ms. published under these conditions were Temple Bar and the Cornhill, the latter edited by Thackeray, These were followed by many others, the price eventually being reduced to sixpence when Longman's Magazine of 1882 was sold for that price, the state of Parisar of Parisa followed by Review of Reviews, published in 1890, and the Strand Magazine in 1891. In America the illustrated Ms. are to the fore and eclipse those of other countries; Harper's, Scribner's, The Century, Munsey's, and McClure's being among the number. In France the Revue des Deux Mondes holds a high place as a critical review, while there are numerous Ms. published in the other countries of Europe.

Magdala, a hill-fortress of Abyssinia, stood on the plateau of Talanta at an altitude of 9110 ft.; it was the stronghold of Theodore, and in 1868

stronghold of Theodore, and in Tobs was taken and destroyed by the British under Sir Robert Napier, afterwards Lord Napier of Magdala.

Magdalena: 1. The chief river of Colombia, rises in the Central Cordillera and unites with the Cauca, 130.

sea-going vessels by reason of a large bar at the mouth; goods are conveyed by rail from Barranguilla to the point whence the river is navigable. The total length of the M. is 1060 m. 2. A small tu. in the Argentine Republic, situated on the Rio de la Plata, 52 m. S.E. by E. from Buenos Ayres. Pop. 4000.

Magdalen College, one of the colleges of the University of Oxford; was founded in 1458 by William of Waynilete, who had held the post of Lord High Chancellor of England. The building was begun in 1474, and is considered the most beautiful of all the Oxford colleges. The tower is one of the most interesting features of the college, and it is from the top of this that a Latin hymn is sung on May Day morning. A new quadrangle was built on to the college in 1885 Magdalen Walks, part of which is known as Addison's Walk, round an island in the Cherwell, are also famous. It was during the time of James II, that this college came so much to the fore in its resistance of the king's choice of a president. Cardinal Wolsey. John Lyly, Hampden, and Addison are among its former members.

Magdalene, or Magdalen, Mary, the name of a woman mentioned in the Gospels as a disciple of Jesus (Luke viii. 2). It is recorded that seven demons were cast out of her. She apparently came from Magdala or Magadan (modern El-Mejdel), near Tiberias. She witnessed the crucifixion of Christ, followed Him to fixion of Christ, followed Him to burial, and prepared sweet spices for the sepulchre. The account in John xx. tells how she found the tomb empty, and was the first to behold the risen Jesus (see also Mark xxi. 9). From confusion with the woman who anointed Christ's feet in Simon's house (Luke vii. 37), the popular conception of her has been that of one fallen from chestity who later refallen from chastity who later repented of her sins. Hence the name Magdalene Asylums' was adopted for homes for penitent women, and the word 'maudlin' (weeping-eyed) is derived from this same unfounded idea. There are many famous pictures of the Magdalene by Correggio, Titian, Paul Veronese, and others. She has also been confused with Mary of Bethany, sister of Lazarus, and with th€ wo

Vincent of Beauvais (13th century).

Magdalene College, Cambridge, founded in 1542 by Baron Audley of Walden. In 1428 a Benedictine student's home had been erected on the m. from the Caribbean Sea. It ends site, which on the dissolution of the in a large delta, enclosing the small monasteries passed into the hands of island of Los Gomez, and is closed to Lord Audley, whose representative,

the owner of Audley End, still has the an English prelate, born at Cork, and power of appointing the master of the educated at Trinity College, Dublin. college, while the foundation of the He held various ministries, and in college consists of a master, seven 1868 became Bishop of Peterborough, fellows, and the students. The most fellows, and the students. The most and Archbishop of York, 1891. He interesting and valuable possession was an active organiser of the Church of this college is the libraring some MSS, and books by Samuel Pepys, who was

students. Magdalen Hall, Oxford, was founded William of Waynfiete, close to Magdalen College, with which it was connected. In 1602 it became an independent hell, and in 1822 its members were moved to the premises now occupied by Hertford College. In 1874 the hall was dissolved, and its fellows and students became incorporated as Hertford College.

Íslands, Magdalen ín Quebec, Canada, are situated the St. in Lawrence, and include Coffin's Is., Saunders, Wolfe, and Amherst. The chief industry is fishing, cod, mackerel, and halibut being found in abundance.

Pop. 5172.

Magdeburg, cap. of Prussian Saxony on the l. b. of the Elbe, 88 m. (by rail) W.S.W. of Berlin, is one of the chief fortresses of Prussia. The city is im-portant commercially, and it includes within its municipality the former towns of Neustadt, Sudenburg, and Buckau. With the exception of one fine boulevard, the Breite Weg (or Broadway), the streets are uneven and narrow. Its cathedral, a noble Gothic edifice, dates from the begin-ning of the 13th century, and con-tains the tombs of Otho the Great and his English wife, the Princess Editha. Here also is the mausoleum of Ernest, Archbishop of Saxony, the masterpiece of Vischer of Nuremberg. principal manufactures include woollen, silk, and cotton goods, tobacco, gloves, leather, chicory, sugar, and vinegar, and there is a large trade in chemicals, cereals, and fruit. The town was founded by Charlemagne about 805, and a Benedictine monastery was established here in 937, tion, and is enclosed on the W. by which in 968 was raised to tl of an archbishopric. Dı

or an archioshophe. Di middle ages M. joined the League. The city suffered severely during the Thirty Years' War, and gallantly held out for nearly seven months when invested by Tilly. It fell, however, and was sacked and burnt, some 30,000 of its inhabitants perishing; the cathedral was the only important building to escape de-The archbishopric was converted into a duchy in 1648, and was presented to Brandenburg. Marshal Ney captured the city in 1806, but it was restored to Prussia in 1814. Pop. 279,644.

1868 became Bishop of Peterborough, " liety, and as a dehater and ew equals. He published and the Age, and The

Atonement. See Macdonnell, Life and Correspondence.

Magee Island, a peninsula in Ireland, co. Antrim, nearly separated from the mainland by Lough Larne. Magellan, Ferdinand (Portuguese Fernao de Magalhães) (c. 1470-1521), a celebrated Portuguese navigator, born probably at Villa de Sabrosa, Tras-os-Montes, and the discoverer of the Strait of Magellan and the Philippines. He was distinguished for his skill and enterprise, and served under Albuquerque in the East Indies for several years, taking part in the capture of Malacca (1511). Considering his services were not properly

him and gave him command of a fleet of five vessels, and he set out in 1519 to discover a western route to the East Indies. He was the first navigator of the Pacific Ocean, so called by him, and on his voyage also discovered the strait which bears his name, and the Ladrones. He met his death in the Philippine Islands, where he became the ally of the Prince of Cebu, one of the smaller islands, against the prince of another little island of the group. M. was killed in the battle of 1521. One of his ships returned to Spain. and was the first to circumnavigate the globe.

Magellan, Strait of, between S. America and Tierra del Fuego, 360 m. in length, and varies in width from 2½ to 17 m. It was discovered by the Portuguese explorer Magellan in 1520. The strait is difficult of naviga-

of nebulous light near the S. pole of the heavens, called by the navigator. Andrea Corsali, in 1516, after Magellan. The Major is formed in the constellation Dorado, and the Minor is situated in a blank space between Hydrus and Toucan. The greater The greater number of the variable stars of the heavens are found in these clouds. The greater nebula covers an area of about 42 square degrees and the lesser about 10 square degrees, according to Herschel.

op. 279,644.
Magee, William Connor (1821-91), celebrated French physiologist and

physician, born at Bordeaux, and Medians which were set aside for the educated at Paris. His manual of management of the sacred rites and physiology, entitled Précis élémentaire de l'hysiologie, appeared in 1816. In 1821 he became a member of the Academy of Sciences, and ten years anatomy later professor of and medicine in the Collège de France. where he became noted for his experiments on the physiology of the nerves. Among his most important works are Lectures on the Physical Phenomena of Life, and Lectures on the Functions and Diseases of the Nervous System. He was also the founder of the Journal of Experimental Physiology.

Magenta, a tn. in Lombardy, Italy, 15 in. W. of Milan, noted for the great battle fought there in 1859 between the allied French and Sardininus and the Austrians, in which the former were victorious. Pop. 8000.

Magenta, see Fuchsine.
Magero Island, near the coast of Finmarken, Norway, in the Arctic Ocean. It is irregular in outline and terminates on the N. in North Cape. the most northerly point of Europe. Pop. 32,596.

Magersfontein, a battlefield, the scene of British defeat in Boer War, 1899, in the W. of the Orange Free

State, S. Africa, near the Modder R. Maggiore, Lake (the Lacus Verbanus of the Romans), in N. Italy, is bounded by Piedmont, Lombardy, and the Swiss canton Ticino. It is 39 m. in length and of an irregular shape; the greatest depth is 1230 ft. The R. rength and of an irregular shape; the greatest depth is 1230 ft. The R. Ticino flows through the lake, which is traversed by steam packets. In the south-western portion are the Borromean Isles; on the N. and W. it is enclosed by high mountains, and on the S. and E. by vine-covered as S. Maggat, the graph or laws of S.

Maggot, the grub or larva of a fly or other insect hatching from an egg denosited in its food supply. The deposited in its food supply. The term is unscientific, but is usually applied to legless larve, such as those of the blue-bottle and green-bottle flies; one of the latter is the well-known sheep M. The Ms. of fruit include a large number of insect types. The Ms. found in plant galls are those of the gall wasps.

Maghera, a par. and tn. of Londonderry, Ireland, 141 m. N. of Cooks-There are manufs, of sewed muslins and linens. Pop. (1911) 6900.

Musins and inens. 10p. (1911) 6900.
Magherafelt, a par. and market tn.
of Londonderry, Ireland, 7 m. S.E.
of Maghera. There is a shirt factory
and manuf. of linen. Pop. (1911) 4200.
Maghiana, or Jhang Maghiana, a
tn. of British India, in the Punjab,
90 m. N.N.E. of Mülfan. Pop. 11,000.
Magi (derived from mag. or most

Magi (derived from mag or mog, Pehlvi: priest; mikguth, a man who wears his hair in a particular manner; mogh, distinguisher), a tribe of the mystery of Nature's laws.

for the preservation and propagation of the traditional knowledge. the Medians, the institution of the M. found its way, under Cyrus, into Persia. They were not only the keepers of the sacred things, the learned of the people, the philoso-phers and servants of God,' but also diviners, mantics, augurs, and astrologers, and no transaction of importance took place without or against their advice.

Magic, a word of sacerdotal origin. being derived from the Magi, the name, according to Herodotus, of certain priests of the Medes and Persians who formed one of the six Median tribes. Their earlier functions were divinatory or prophetic, but later, in the Persian court, they sank nation, in the Persian court, they sank to the level of mere occultists or magicians. It is hardly necessary to point out how closely akin M. is to superstition, the belief in it as the art of exorcising spirits or producing supernatural effects by means beyond the comprehension of the credulous being as deep-seated in the psychology of races low in the scale of civilisation as any belief in extra-mundane influence. The patronage accorded by fashionable if neurotic ladies and others to West End palmists and spiritualists, proves that even in this most advanced stage of civilisation many people in certain circumstances will seek solace in pretended M., though in this con-nection it is to be observed that in nection it is to be observed that in spite of criminal prosecutions and palpably exposed frauds, there are undoubtedly well authenticated and apparently preternatural phenomena that do require explanation; a fact that is supported by the writings of the property of the that is supported by the many able psychologists, e.g. Sir many able psychologists, e.g. Sir bombroso. It is difficult to account for the origin of Tylor (Early History of Mankind) attributes the carliest practice of M. to the belief in an objective connection between two things—a man and a rude drawing of him, or two events, the death of a child and the great hawk's nocturnal cry-when in truth the connection could only be subjective. This theory seems alto-gether inadequate, for it is really the genesis of the objective connection itself that requires explanation. It seems more correct to say that all such connections are due to some unreasoning association of ideas from a mere synchronisation; which association has become stercotyped in the early traditions of particular races and fostered by the very natural if childish hope of penetrating the

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tions of expression black M. or the black art or M. proper. is that branch of M. which was practised with evil intentions generally by 'unofficial' persons, like witches or sorcerers. At the present day it is a synonym for the conjuring tricks of clever mechanical illusionists like Messrs. Maskelyne and Devant. contradistinction to black M., white M. connotes the altruistic practice of M. This opposition is exemplified in the mediæval beliefs in good and bad fairies; for example, in the rustic superstition that some kindly disposed elf had churned the milk overnight, or an ill-disposed one dropped a mouse in the cream. term magic square is applied to a square figure formed by a set of numbers arranged in such a manner that the vertical, horizontal, and diagonal columns shall give the same sums. Such squares were universally believed to possess astrological The qualities. term enchantment, which is derived from Latin in canto (to repeat a chant or charm over). denotes the practice of enthralling another bу charms \mathbf{or} Doubtless hypnotic suggestion would be looked upon by lower races as An obvious applicaenchantment. tion of white M. is the healing of disease by sorcerers, and, indeed, generally M. among early Oriental

rs in Victoria : Polynesia) had, and has, over and above its spiritual or sacerdotal significance, this utilitarian aspect; the healer, however, whether consciously or unconsciously, performing 'miracles' of cure by some homely and efficacious remedy, e.g. by sucking out the poison from a wound, and not by the instrumentality of

varic-

and Brough

M. at all. Magic Lantern, or Optical Lantern, an apparatus for projecting upon a white screen enlarged representations of diagrams, pictures, etc., drawn or photographed on glass slides. The instrument is said to have been invented by Athanasius Kircher, who described it in 1646. It was at first used as an amusing toy, but in its later developments is a means of representing small pictures and objects to large audiences. The cinematograph is essentially an optical lantern. The instrument consists of a lantern body to contain the source of light and the reflectors, an optical

exhaustive collection of curious slide-frame. The light used is gener-peasant and other beliefs that have come down through the folklore of rand's type consists of a 'condensing' lens, Popular libication of the property of the consists of a 'condensing' lens, which transmits the rays from the libitian of the condensing the condension light to the object, and an 'objective, which receives the rays from the object and transmits them to the screen.

Magic Squares, sets of numbers arranged in the form of a square in such a manner that the sum of the numbers in each vertical and horizontal column and in each diagonal is constant. The following may serve as examples of their construction:

2	1	5	3	4	
3	5 2	$\frac{\frac{2}{3}}{1}$	1 4 5	5 2 3	
1					
4					
5	3	4	2	1	
		FIG. 1	,		
15	5	0	20	10	
0	20	10	15	- 5	

15 FIG. 2

5

20

10

õ

20

of

15

0

10

In Fig. 1 the numbers 1 to 5 are arranged in any order in the first row; the second commences with the number in the fourth cell of the first row and proceeds in the same relative order. The third row commences with the number in the fourth cell of the second row, and proceeds in order, and so on. Fig. 2 consists of the numbers 0 to 4 multiplied by 5, and each row starts with the number in the third cell of the row above. If now the numbers in the cells of Fig. 1 be added to those in the corresponding cells of Fig. 2 the result is a M. S. as in Fig. 3.

instrument is said to have been invented by Athanasius Kircher, who	17	6	5	23	14	}
described it in 1646. It was at first used as an amusing toy, but in its	3	24	12	16	10	_
later developments is a means of representing small pictures and ob-	11	20	8	4	22	
jects to large audiences. The cine- matograph is essentially an optical	9	2	21	15	18	_;
lantern. The instrument consists of a lantern body to contain the source of	25	13	19	7	1	:
light and the reflectors, an optical system, and a slot to accommodate the	FIG. 3					

By altering the order of the numbers | abode of the Court of Common Pleas in the top row and making corresponding changes in the other rows, a large number of such M. S. can be obtained by successive additions.

Magilp, a medium for oil-colours. It is composed of linseed oil and a preparation of mastic, the gummy

exudation of the lentisk.

Magilus, a gastropod molluse, parasitic in live corals in tropical seas. To keep pace with the growth of the coral, it lengthens the aperture of its normally spiral shell into an elongate tube, which is sometimes found 15 in. The tube, except at the extremity, beco

Magione, a vil. of Central Italy, 8 m. W.N.W. of Perugia. Pop. (com.) 8000.

Magister Equitum (master of the horse), a Roman official in command of the cavalry in the time of the kings. In the time of the republic the office only came into force when a dictator was appointed.

Magistrate, see JUSTICE OF THE

PEACE.

Magliabecchi, Antonio (1633-1714), an Italian librarian and bibliomaniae. born at Florence, famed for his vast and varied knowledge of languages and antiquities. For many years he was librarian to Cosmo III., Grand Duke of Tuscany, and to his successors. At his death he left his collection of manuscripts and early editions to Florence, and it now forms part of the National Library of that city.

Maglie, a tn. in the prov. of Lecce, Italy, 19 m. E.N.E. of Gallipoli. Pop.

8500.

Magna Charta, or The Great Charter, the famous document granted by King John at Runnymede to the barons in 1215, viewed in after times as the basis of English liberties and described by the historian Hallam as the 'keystone of English liberty.' Its great underlying principle is that the king must keep the law. John's oppressions and tyranules aroused the barons to take up arms to redress their grievances, their demands being based on the charter voluntarily granted by Henry I. In addition, it contained sixty-three clauses bodying provisions for the protection of the rights of feudal proprietors and against the abuse of the royal pre-rogative. Its principal provisions were the redressing of a number of grievances connected with feudal tenures: provisions regarding the relief of heirs, wards, and marriage of the the widows of tenants-in-chief; inviolability of the liberties of the City of London and other ports and towns; freedom of commerce to foreign merchants; the strict administration of justice; the permanent marl slate and a superposed zone of

at Westminster: the holding of assizes in the different counties, and the establishment of assizes; the abolition of extraordinary taxation; the protection of life, liberty, and property; one standard of weights and measures; no banishment or imprisonment save by judgment of peers. See M'Kechnie. Magna Charta, 1905.

Magna Charta Island, 2 m. N.W. of Staines, in the Thames, Surrey, England. It was the site of the signing of Magna Charta by King John in 1215.

Magna Græcia, the name given by the ancient historians and geographers to the Hellenic settlements of pre-Roman times in the S. of Italy. cities were Tarentum and Cuma. The Greeks colonised extensively in the Mediterranean, but the term Magna Gracia was exclusively used to denote those settlements in Southern Italy not including Sicily, which was a separate colony. Of all the cities of M. G., Tarentum was the most important, and lent its influence to the other towns under the Hellenic civilisation. The best part of the history of M. G. may be studied in the history of Tarentum itself. The city was supposed to have been founded by Taras and some colonists from Crete, but it is historical knowledge that the original migration was reinforced about 700 B.C. by settlers from Sparta. Situated in the S.W. part of Iapygia, Tarentum became. owing to its industry and commerce, one of the most important and, at the same time, one of the most effeminate cities of M. G. Later, Tarentum, with most of the other Hellenic cities of

Italy, came under the sway of Rome. Magnesia: 1. Magnesia ad Mæandrum, an ancient city of Ionia, Asia Minor, 10 m. N.E. of Miletus, near the Mæander. Until it fell into the hands of the Romans it was a wealthy and prosperous city. It was destroyed by the Cimmerians about B.c. 700, and here Themistocles, the Athenian patriot, died, B.C. 449. 2. Magnesia ad Sipylum, a city on the Hermus, near Mt. Sipylus, N.W. of Lydia. Beside this town Scipio defeated Antiochus of Syria, in 190 R.C. Its modern name is Manissa, and it contains 50,000 inhabitants 3. A div. in ancient Thesaly, along the E. coast, with Mr. Pelion and Mt. Ossa on its borders. 4. A nomarchy or prov. of modern Greece. Pop. 183,000.

Magnesia, see Magnesium.

Magnesian Limestone, a formation occurring in the middle division of the Permian system. It consists the Permian system. It consists of a bed of brown shale with bands of of the Permian system in the E. of England and is represented in the W. by discontinuous limestones and sandstones. The term M. L. as a rock is applied to dolomite. a mineral crystallising in octobedra and consisting of calcium and magnesium carbonate.

Magnesite, a mineral consisting of magnesium carbonate (MgCO₂). It is usually included among calcites, and is met with in three forms, crystalline, massive, and earthy. The crystals occur in rhombohedra, and have a hardness of 4 and a sp. gr. of 3. The other forms are white in colour and are often mixed with meerschaum or other magnesium salts. The mineral is mined in Eubæa, Madras, and California. and is used for the manufacture of fire-bricks, as a source of magnesium salts, and as a

Magnesium, in chemistry, a metallic element, di-valent; symbol Mg, atomic weight 24.3. The substance was first known in the form of the sulphate, or Epsom salts: in the 18th century the oxide, or magnesia alba, was prepared, and was at first thought to be chemically identical with lime. In 1808 Davy demonstrated that magnesia was the oxide of a metal; the metal was obtained in a fairly pure state by Bussy in 1829. M. occurs in the form of carbonate in magnesite, dolomite, and magnesian limestone; it occurs as sulphate in sea water and some mineral waters, as at Epsom in Surrey, and Seidlitz in Bohemia, also as the mineral kiescrite; it occurs as chloride in the mineral carnallite at Stassfurt: it also enters into the composition of many silicates, as hornblende, talc, olivine, asbestos, and

presence of metallic sodium. impure metal thus obtained is then sublimed and the product pressed into the form of ribbon. The metal may also be separated from the chloride by electrolysis; the cathode is a metal vessel heated externally, and the anode or carbon rod passing into a porcelain cylinder, from which the chlorine is liberated by a side-tube. M. is a lustrous white metal of specific gravity 1.75 and melting-point 632.7. It is malleable and ductile. When heated in air it burns with great brilliancy, forming the oxide MgO, a white powder slightly soluble water and very infusible. When When the metal burns in chlorine, the chloride MgCl₂ is formed. It may also be prepared by the action of hydro-free to move in a vertical plane. If chloric acid on magnesia, or magnesis such a needle is placed with its axis sium carbonate.

dolomite. It is a characteristic feature 'soluble in water and occur in seawater. The sulphate, formerly obtained from the springs at Epsom, is now obtained from the mineral kieserite; the salt is fairly soluble in water. M. is used in photography for producing a brilliant light rich in chemical rays; it is used for a similar purpose in pyrotechny. The salts are useful purgatives. The sulphate, or Epsom salts, is most commonly employed, and acts by virtue of abstracting water from the tissues into the howel; the stronger the solution, the more water is thus abstracted. Fluid magnesia is an aperient prepared by dissolving the carbonate in water impregnated with carbon dioxide. Citrate of magnesia, a popular effervescent aperient, consists of a mixture of bicarbonate of soda with tartaric and citricacids with a small proportion of Epsom salts.

Magnetic Belts, see ELECTRICITY IN MEDICINE.

Magnetic Pole and Units, see ELEC-TRICITY -Magnelism.

Magnetism, Terrestrial. The fact that a freely suspended magnet tends to take up a position approximately coincident with the geographical meridian seems to have been known to the Chinese in very early times, and compasses of a sort were em-ployed in Europe in the 12th century Columbus is said to have discovered that the direction of the compass is not true geographical N. and S., and that the declination or variation is different in different places. The phenomenon of dip or inclination was noticed in the 16th century, and secular variations in dip were recorded towards the end of that century. The importance of the magnetic properties of the earth was realised by navigators, and it is to sailors and those concerned with nautical matters that most of the investigation and records of magnetic phenomena are due. By series of observations at different points on the earth's surface it has been possible to chart the magnetic elements peculiar to a locality and thus afford the necessary aids to The earth, correction for mariners. in common with all magnets, has a N. and a S. pole, and the regions between them constitute part of a magnetic field whose characteristics are partly shown by 'lines of force.' In determining the magnetic conditions at any place we have to consider the three elements: dip or inclination, Dip sus-

The bromide and at right angles to the magnetic meitalide resemble the chloride; they are ridian, the north-seeking pole will tilt downwards at an angle with the horizontal which increases as it is moved towards the N. magnetic pole. At the N. magnetic pole, which is situated in the N. of Canada about 97° W. long. and 704° N. lat., the needle will take up a vertical position with its north-seeking pole downwards. At the S. magnetic pole, situated probably seeking pole downwards. At the S. magnetic pole, situated probably about 150° E. long, and 73° S. lat., the needle will be vertical with its south-seeking pole downwards. Between these positions there is a line called the magnetic equator where the needle remains horizontal. The magnetic equator is by no means coincident with the geographical equator, and similarly, lines of equal dip do not coincide with parallels of latitude, and are not parallel to each other. When a needle is suspended or pivoted so as to be free to move in a horizontal plane, as in the mariner's compass, it

takes up a r N. and S. In

the long axis some degrees E. or W. of the true N. The extent of this variation is called the declination, and charts showing the declination at most points on the earth's surface are of great use to mariners. The lines joining places of equal declination on such a map are called isogonal lines: the lines joining places of declination 0° are called agonic lines. An agonic line starts from the N. magnetic pole, crosses Canada and the United States, the eastern part of S. America, and pursues a fairly regular course to the S. geographical pole; it then becomes an isogonal of 180° until it reaches the S. magnetic pole. An agonic line then crosses the Antarctic Ocean, the western part of Australia, takes a bend westward to the Arabian Gulf, crosses Russia, and goes to the N-geographical pole, after which it be-comes an isogonal of 1:0° until it reaches the N. magnetic pole. is also an agonic line tracing out an oval course in the eastern part of Asia; within this oval the declination is westerly, outside it there is an easterly declination. The construction of declination charts for fairly permanent use is rendered difficult from the changes which occur in the declination from time to time. cordsextending from the 16th century show that there is a secular change in attaching the symbol if it was below declination: thus the declination at the average in brightness. Many London in 1580 was 11° E., in 1631 it was 4° E., in 1657 it was nil, in 1692 it legar the stars with respect to M., and was 6° W., and showed an annual increase until 1818, when it was of observations on the numbers 24° 38′ W., since then the declination and M. of stars between the N. has decreased to about 16° W. at the present time. All the magnetic elements show variation from the mean 313; 5th M., 85; 6th M., 2010 values during the solar day. Thus at show that there is a secular change in

Greenwich the declination is to the E. of its mean position in the early hours of the day, the maximum varia-tion in this direction occurring at about 8 a.m.; it then becomes more westerly until the maximum variation to the W. of the mean declina-tion occurs about two hours after noon. In addition to these periodic variations in declination, there are irregular variations which make the task of determining the mean declination a difficult one. Magnetic disturbances of this kind are found to bear a relation to sun-spot frequency. and also to displays of aurora borealis. The state of present-day knowledge of the causes of magnetic phenomena is, however, too inadequate to satisfactorily explain the connection.

Magnetite, a mineral consisting mainly of black oxide of iron, Fe₂O₄. It is identical with loadstone, and is famous under that name for its mag-netic qualities. It occurs as crystals in the cubic system, having a hardness of 6 and a specific gravity of 5; it is black and opaque, and has a metallic lustre. It is widely distributed, entering into the composition of many volcanic rocks, and is valu-

able as an iron ore.

Magneto - electric Machine. see DYNAMO.

Magneto Ignition, see Moror Cars. Magnetometer, see MAGNETISM. Magnificat, the song of thanks-giving of the Virgin Mary, incorporated into the evening service of the Anglican Church, to be said or sung after the First Lesson. Its use in the Church service dates back to about the 6th century.

Magnifying Glass, see LENSES. Magnitude, in astronomy, the brightness of a star. The term was used in the form μέγεθος by Ptolemy. who published a catalogue of the stars visible in the northern hemi-sphere, and divided them into six classes according to their brightness. with which was naturally associated some idea of their relative size. The six Ms. of Ptolemy were arranged with the brightest in the first M., and proceeded to the sixth M., or least visible stars. He also introduced some measure of subdivision, attaching the symbol μ to the M. of a star if it exceeded the average of its class, and attaching the symbol e if it was below the average in brightness. Many attempts have been made to catastars required to give the same light as a star of the first M. are as follows, counting from the first M. to the sixth: 1, 21, 6, 16, 40, 100. Magnolia, a large genus of hardy

Magnolia, a large genus of hardy and half-hardy deciduous and evergreen flowering trees and shrubs with fragrant solitary flowers. M. grandiflora is a fine evergreen tree attaining a great height in America. M. stellata is a small shrub with an abundance of white star-shaped blooms, which appear in April. M. conspicua, the Yulan, bears large water-lily-like, very fragrant flowers on leafless twigs in March.

Magnoliaceæ, a natural order of trees and shrubs, divided into two tribes: Magnoliæ, with carpels in a cone, and Winteræ, with carpels in a single whorl.

Magnus, the name of the kings of Norway, among whom may be mentioned:

Magnus the Good (1035-47), who became king of Denmark also in 1042,

was a son of St. Olaf.

Magnus the Barefooted (1093-1103), born in 1073. He subdued the Orkneys and the Hebrides, but was killed while on an expedition to Ireland.

Magnus the Lawgiver (c. 1263-80), born in 1238. He constituted himself a reformer of the laws of his country, compiled laws for Iceland, and made the crown hereditary.

Magnus Eriksson (1319-63), King of Norway and Sweden. In 1343 Norway was given to his son Haakon, and in 1363 he himself was forced to give up the throne to Albert of Mecklenburg. He died in 1374.

Magnus, Olaus (1490-1558), a Swedish ecclesiastic, brother of Johannes M., archbishop of Upsala in the 16th century. He was nominated archbishop of Upsala after the death of his brother, but never took up his episcopal position, and died in the monastery of St. Brigid in 1568. M. is best remembered for his historical writings. His History of the Goths, Swedes, and Vandals is his best known work.

Magnus, Sir Philip (b. 1842), an educationist, born in London, and educated there and on the Continent. In 1880 he became director and sceretary of City and Guilds of London Institute, which appointment he held for eight years. He is now secretary for the Department of Technology of the same institute, and has also been M.P. for London University since 1906. Among his numerous writings on educational subjects may be mentioned: Lessons in Elementary Mechanics, 1892 (new ed.); and Manual Training in English Schools, 1890.

Magnusson, Arni (1663-1730), a Norse scholar, boru in Iceland. After studying in Copenhagen, he acted for a short while (1701-2) as professor of philosophy in the university there. Subsequently he travelled through Iceland (1702-12), making a collection of northern antiquities and old Icelandic MSS. This valuable collection, a great part of which was destroyed by fire in 1728, is preserved in the Copenhagen University. See Catalogue, with Memoir, by Dr. Kr. Kaalund (1888-94).

Magnusson (or Magnussen), Finnur (1781-1847), an archevologist, born at Skalholt, Iceland. In 1815 he was appointed professor of literature at the University of Copenhagen, and temained at that university until his death. Among the works which he edited are: Edda Sæmundar, 1787; with C. C. Rafn. Grönlands Historiske Mindesmærker, 1838; with C. C. Rafn and others, Antiquités Russes, 1850. He wrote Eddalæren og dens Oprindelse, 1824-26, among

other works.

Mago (d. 203 B.C.), a Carthaginian soldier, the youngest son of Hamilear Barca and brother of Hamileal. He took part in Hamileal's great campaign in Italy (217-216 B.C.), and in 216 was despatched to Carthage with the news of the battle of Cannæ. He then joined his other brother, Hasdrubal, in Spain, where he carried on war for many years. He was defeated by M. Junius Silanus in 206, and at Silpia by Scipio Africanus in 205. The Carthaginian government forthwith ordered him to invade Liguria (205-203 B.C.), and he died of his wounds on his voyage back to his native city.

Magog, see Gog and Magog. Magpie, the familiar name of several species of Pica, a genus of passeriform birds belonging to the family Corvide. P. caudata, the commonest species, is known all over Europe, and extends through the Palearctic region: it can easily be tamed; P. nuttalli, a native of California, is distinguished by a bright

behind the eye.

Maguay, Maguey, or American Aloe (Agave Americana), a tall plant with large fleshy spiny leaves. Several varieties are cultivated. See AGAVE.

yellow bill and a naked blue spot

Magus Muir, a reclaimed moorland situated about 3½ m. W. of St. Andrews, Fifeshire, Scotland. It was here that Archbishop Sharp was murdered in 1679.

Magwe: 1. A dist. of Upper Burma in the Minbu div. The Irawadi forms its western boundary. The soil is fertile, and rice, cotton, maize, etc., are grown. Area 2915 sq. m. Pop. 247,000. 2. The cap. of above dist., on the Irawadi R., 70 m. S. of Pagan. | conferred upon him by various uni-

Pop. 6500.

Magyars, dominant race of Hun-gary, constitute a branch of the Finno-Ugrian tribe, and came originally from the plains E. of the Carpathians. About the year 896 they descended into the Moravian realm, under the leadership of Arpad, the great national hero, and caused great devastation and pillage, until they were driven back by the Germans in the 10th century. After this they settled down to a more peaceful exist-ence, embraced Christianity, formed laws, and made rapid advances in civilisation. There are other races in Hungary Servians, Wallachs, in Hungary, Servians, Wallachs, Ruthenians, Slovaks, and Germans, but the M. take the most prominent part in public affairs, and the language spoken is of Finnish derivation.

Mahabaleshwar, the chief hill-station of Bombay, on the eastern slope of the Western Ghats, founded as a sanatorium in 1828. It is situated on a ridge about 4500 ft. high, 74 m.

Mahabalipur (city of the Great Bali), a vil. in the dist. of Chengalpat, Madras, India, which is famous for its

ancient cave temples and sculptures. Mahabharata, a sacred book of the Hindus, and one of the two great epics of ancient India, the other the other dilions, 1910.

bably the ing about Iliad and uthorship

but that is probably a generic name; it bears all the marks of being a compilation, for its contents are heterogeneous in the extreme. The leading story relates the contests between Kurus, representing the spirit evil, and the Pandus, representing the spirit of good. The temporary triumph of evil is shown by the ad-versities of the Pandus, while their ultimate renunciation of an earthly for a heavenly kingdom signifies the final victory of good. The text was first printed in 1834-39 in Calcutta. There is an English prose translation
by Protap Chandra Roy (1883). A
comprehensive edition, comprising
the Sanskrit text and both Hindu and įψ English translations, was commenced

at Moradabad in 1902.
Mahadeva, see SIVA.
Mahaffy, John Pentland (b. 1839),
an Irish classical scholar, born in
Switzerland. He was educated in an Irish classical scholar, born in cording the history of Ceylon from Switzerland. He was educated in Switzerland. He was educated in its earliest period to the reign of Mahasena, who died in 302 A.D. Mahavilly-Gunga, the chief riv. in where he became professor of ancient history. He has had many honours island, flows N. past Kandy, and

versities and learned societies. chief publications are a translation of Kuno Fischer's Commentary on Kant, 1866; Greek Social Life, 1874; Greek Antiquities, 1876, now standard school-book; History now a വ Standard Sendol-Obok; History of Classical Greek Literature, 1880; The Greek World under Roman Sway, 1890; The Silver Age of the Greek World, 1906, He also deciphered and edited the 'Petrie Papyri' in the

Cunningham Memoirs, 1891-1905.

Mahallat: 1. (Formerly Anar) A
prov. of Central Persia, between Kashan and Irak, and traversed by the Kum R. Pop. about 20,000. 2. Cap. of the above. Pop. about 9000. Mahan, Alfred Thayer (b. 1840), an

American rear-admiral and author, born at New York. He served in the porn at New York. He served in the navy for forty years, retiring in 1896, and was advanced to the rank of rearadmiral (retired) 1906. He is the author of several works, the most important of which are: The Gulf and Inland Waters, 1883; Influence of Sea Power upon the French Revolution and Empire, 1899; 1864 Meleculation and Empire, 1899; 1864 Meleculation and Empire, 1899; 1864 Meleculation and Empire, 1899; 1866 Meleculation and Empire, 1898; 1866 Meleculation and 1898; 1866 Meleculation and 1898 Me S. of Poona. Near the foot of the hill Power upon History, 1890; Influence is the source of the R. Krishna, of Sea Power upon the French Revolumarked by an ancient temple which it in and Empire, 1892; Life of Nelson, is the resort of Hindu pilgrims. the Great in Sea Power, 1897; The Problem of Chengalpat, Asia, 1900; The South African War, mous for its 1900; From Sailto Steam, 1907; Naval sculptures. Administration and Warfare, 1908; book of the Harrest Wilhin, 1909; and Interest of America in International Con-

Mahanadi, or Mahanuddy, a riv. in India, rises in the Raipur dist.. Central Provinces, and flows first Ocherat Provinces, and inally through Orissa to the Bay of Bengal, which it enters by numerous arms. It is connected with several canals and is used for irrigation purposes. Its

length is 520 m.

Mahanaim, was a tn. of some importance in Gilead, Palestine, its exact position being uncertain. According to most authorities it seems to have been near Jordan, and on the borders of Gad.

Mahanoy City, a bor. of Schuylkill co., Pennsylvania, U.S.A., in a valley bounded on the S.E. by the Broad Mt., and produces anthracite coal. Pop. (1910) 15,936.

Maharajah, see RAJAU.

Maharajnagar, or Charakhári, a tn. in Central India, is the capital of Charakhári state, Bundelkhand. Pop. 12,000.

Mahavansa, the title of two celebrated books written in Pali, and re-

enters the Indian Ocean to the S. of 1 Trincomali.

Mahavira, was the twenty-fourth and last deified saint of the Jains, and his name signifies 'great hero. story is told in the Kalpa-Sútra and the Mahávira-Charitra, two works held in great authority by the Jains.

M. appears to have been a contemporary of Buddha.

Mahdi ('he who is guided aright,' from Arab hadd, be guided), the expected Messiah of the Mohammedans, supposed to have been been promised by Mohammed (though not mentioned in the Koran) to come and fill the world with righteousness, as the 'Imam' or callf of God. Abdulla, a Persian Shia of the 10th century, much influenced by Zoroaster's doctrines, prophesied the coming of a future Moslem teacher, greater even a future Moslem teacher, greater even Russia declared war (1827), and than Mohammed, who should never Russia declared war (1827), and die. This teaching was accepted by forced M. to sign the peace of the sect of Ismailis, from whom arose Adrianople (1829). In order to support the secured a secured a in N. Afr

(909-33).to be 'al-mahdi 'and waged religious wars in different parts were the third Abbasid calif (775-c. 84), the descendants of 'Ali, one of whom disappeared mysteriously in 879, and the Don-golese Mohammed Ahmed (c. 1843-85) who attempted to conquer the E. Sudan. He made El-'Obeyd his capital (1883), Khartoum was taken (1885), and Gordon killed. The empire was overthrown by Anglo-Egyptian forces, and Mohammed's successor crushed by the British expedition to Dongola (1896), and by Kitchener's victories at Atbara and Omdurman (1898). See Darmesteter, The Mahdi, Past and Present, 1885; Wingate, Mahdiism and the Egyptian Soudan, 1891; Slatin Pasha, Fire and Sword in the Soudan (trans. 1896); Burleigh, Sirdah and Khalifa, 1898.

Mahé: 1. A tn. on the Malabar coast of India, 33 m. N.N.W. of Calicut, belonging to the French. Pop., with adjoining dist., 10,000. 2. The largest island of the Seychelles, in the Indian Ocean, 17 m. long and covered with high granite mountains. The chief town is Port Victoria. Area

56 sq. m. Maheswar, a tn. in Indore State, Central India, stands on the N. bank of the Narbadá R.; it is of great anti-

quity, and has many historical asso-ciations. Pop. 10,000. Mahikantha, in India, a group of states forming a political agency under the government of Bombay. This territory is subject to a number of chiefs, of whom the Maharaja of Idar is the most important. Area

Turkey, the son of Mustafa II., born in 1696. He ascended the throne after the deposition of his uncle, Ahmed III., and continued the war against Nadir, Shah of Persia, but with little success, and made peace in 1736. He then entered upon a war with Russia and lost Ockzakow in 1737. The Austrians, the allies of Russia, met with a serious defeat at

Krotzka, and peace was made at Belgrade in 1740. Mahmud II. (1808-39), Sultan of Turkey, the son of Abd-ul-Hamid I., and the successor of his brother, Mustafa IV., was born in 1785. The war with Russia was concluded four years after his accession by the treaty of Bucharest. In 1821 the War of Greek Independence broke out, and Greek sailors of the Turkish navy mutinied. After the battle of Navarino

f Egypt, he secured a in 1833, and ordered the invasion of Syria in 1839, but died before the news of defeat reached

him. Mahmud of Ghazni (999-1030), a powerful ruler of Afghanistan, and the first Eastern monarch to assume the title of Sultan. His father, Seluktagin, died in 997, and left his throne to a younger son, Ismail. Mahmud, who was governor of Nishapur, hastened to Ghazni, deposed his brother, and seized the throne. repeatedly made inroads into India (1001, 1006, 1007, and 1009), and carried away much booty. He also subdued Ghur, Jurjistan, and He also . subdued Ghur, Jurjistan, and Kharezm, and extended his kingdom as far as Samarkand on the N. and

Kurdistan on the W. Mahoba, a tn. in the Hamirpur dist., United Provinces, N. India. 87 m. S.S.W. of Cawnpur. It has interesting architectural antiquities. Pop. 10,500.

Mahogany, properly the fragrant, aromatic wood of Swietenia Mahogani a large Central American and Cuban tree. The heartwood is close-grained, hard, and durable, and takes a fine polish, and its production is a very important industry not only in its native territory, but also in India, where it has been successfully introduced and extensively planted. furniture appears to be less popular than formerly. Substitutes for M. include the somewhat coarse wood of Persca indica of Madeira, the wood of Podocarpus totara, the M. or Totara pine of New Zealand, the wood of several species of eucalyptus, notably the blue gum (E. globulus) and E. 11,000 sq. m. Pop. 360,000. the blue gum (E. globulus) and E. Mahmud I. (1730-54), Sultan of resinifera. The Indian redwood (Soymida febrifuga) is sometimes called the Indian M. Khaya senegalensis is the African M., and the woods are very similar.

Mahomedanism, see MOHAMMEDAN-

ISM.

Mahomet, see MOHAMMED. Mahon, see Port Mahon.

Mahon, see Fork manon.
Mahony, Francis Sylvester, known as Father Prout (1804 - 66), a humorist, entered the order of Jesuits, but abandoned the priesthood in 1832. He devoted himself to literature, and became a valued contributor to Fraser's Magazine. His post result contributed societally to best work, contributed originally to that periodical, is the Reliques of Father Prout, 1836.

Mahrattas, or Marathas, a term commonly applied to a mixed race, but mainly of Hindu origin, inhabit-ing Central India, chiefly in the states of Baroda, Indore, and Gwalior, but the word is now used to designate all Marathi-speaking Hindus in India. They are first mentioned in the 17th century as robbers and rebels, who rose against the Mogul emperor at Delhi under the leadership of Sevaji, a Hindu adventurer, who proclaimed himself the chief. He was succeeded himself the chief. by his son, Sambaji (1680), who en-deavoured to carry out his father's policy, but nine years later he fell into the hands of his enemy, Aurunzebe, who put him to death. For over a century they waged incessant war against the Mogul dynasty with varying success, but at length they sustained a heavy defeat at Paniput in 1761 at the hands of Ahmed Shah Abdalli, the Amir of Afghanistan. Their power was eventually broken by the British in 1843. The M. are an active and hardy people, and de-yout worshippers of Brahma. Their language is akin to Gujarati and Sindhi, and their literature is abun-dant. Marathi speakers now number about 20,000,000. See also India-History.

Mährisch-Neustadt, a tn. of Moravia, 14 m. N.N.W. of Olmütz, has textile and brewing industries, etc. Pop. 5003.

Mahurea, a genus of evergreen trees of the order Ternstræmiaceæ. The principal species is M. palustris of S. America; it bears terminal panicles of purple flowers in May. It is sometimes grown in the stovehouse.

Mahuwa, or Mahuwa, a tn. and port on the Kathiawar Peninsula, Bombay, India, 56 m. E.N.E. of Diu. Has a large export trade in cotton. Pop. 17,549.

the Ambrosian Library, Milan, and discovered many forgotten works. chiefly from palimpsests. Pope Pius VII. gave him the charge of the Vatican Library, which resulted in the publication of the famous Codex Valicanus.

Maia, in Greek mythology, the daughter of Atlas and Pleione, was the eldest of the Pleiades, and the most beautiful of the seven sisters. In a grotto on Mt. Cyllene M. became by Zeus the mother of Hermes. The Romans identified her with an old

Italian goddess of spring.

Maiano, Benedetto da (1444-98), a sculptor, born at Florence. Most of his works are to be found in churches, one of his best being the marble pulpit of Santa Croce. He also did some work as an architect, among his designs being that of a church porch. He also built a chapel for himself near Prato.

Maiano, Giuliano di Nardo da, uncle of the preceding, was also a sculptor and architect. His works are to be found in Florence, Naples, and Rome. The date of his death is variously stated, but he is known to have been

alive in 1471.

Maida Vale, a residential suburb in the N.W. of London; adjoining Kilburn, in the borough of Paddington. It has a station, Kilburn and Maida Vale, on the L. and N.W. Railway,

Maiden, an early form of guillotine. An axe was fixed in a frame about 10 ft. high, so that it could move up-wards in grooves. When the axe had reached the topmost groove, it was suddenly released and fell on the victim's neck. It was first used at the execution of the minor agents employed to murder Rizzio (1561). It was last used in 1710, since when it has been displayed in the Museum of the Society of Antiquaries of Society in Michael 1918. Scotland, in Edinburgh.

Maidenhair Fern, or Adiantum capillus veneris, a pretty British fern found in moist warm situations. It bears its fructification in short marginal patches on the edges of the subdivisions of the fronds, which are in turn to protect it. It grows well in pots where frost is excluded. Maidenhair grass (Briza media) is more commonly called quaking grass. Maiden-hair tree is Salisburia adiantafolia.

Maidenhead, a municipal bor. in Berkshire, England, beautifully situ-ated on the r. b. of the Thames, 26 m. W. of London. The town is very old, and in 1399 was the scene of a contest

Pop. 17,549.
Mai, Angelo, Cardinal (1782-1854),
Mai, Angelo, Cardinal (1782-1854),
Maidment, James (c. 1795-1879), a
Scottish antiquary, born in London.
lishments. He became custodian of

the same time, interested in anti-quarian research, and it was this inquarian research, and it was this interest which gave him his introduction to, and subsequent friendship with Sir Walter Scott. His numerous publications include: Reliquæ Scottæ; Scottish Ballads and Songs, 1859; A Book of Scottish Pasquils, 1868.

Maids of Honour, of whom there are the transfer that we district the Angel

eight, are the immediate attendants upon the queen, under the direction of the mistress of the robes. They are given the courtesy title of 'Honourable,' and accompany Her

Majesty in turn, on all occasions.

Maidstone (A.-S. Meguaid- or Medwig-ston, i.e. the city of the Medway), the co. tn. of Kent, 43 m. S.E. of London by South-Eastern and Chatham Railway. A municipal and parliamentary borough returning one member to parliament. Contains among numerous other public buildings a town-hall, County Lunatic Asylum. West Kent Infirmary, Asylum, County Ophthalmic Hospital, West Kent General Hospital, and a museum of local antiquities. There are also cavalry and militia barracks, many handsome churches, imposing \mathbf{a} Gothic fountain, while the river is spanned by a triple-arched stone bridge. Noteworthy are the ruins of the Canterbury pilgrims' hostel, All Saints' College, founded in 1260 and suppressed by Edward VI. There are oil and paper mills, cement and lime works, in M. and around the town extensive hop gardens. Pop. (1911) 35,477.

Maidu, the name of a group of Indian tribes, formerly occupying the N.E. of California, U.S.A. A few are still found in this region, while some live near the Round Valley Reservation. They fed on acorns and roots, and lived in a kind of dugout of boards. They went naked and executed a number of wild dances. Their chief occupation is basket-weaving. Consult Dixon, The Northern Maidu, American Museum of Natural History (vol. xvii.), 1905, and Powers, Tribes

of California, 1877. Maigre, or Meagre (Sciæna aquila), an edible fish rather like a bass with very large otoliths. It ranges from Britain to S. Australia.

Maiidæ, or Maians, sea spiders, with the first pair of feet much longer than the second pair (Macropodian). The carapace is much longer than its

Maikop, a tn. of Russia, situated in the ter. of Kuban, Ciscaucasia, and is a rapidly growing commercial centre. Pop. 34,191.

Maikov, Basil Ivanovitch (1725-78), a Russian author, born at Jaroslav, and died at Moscow. He gained a or a penalty of £20.

pleading in peerage cases. He was, at reputation, in spite of a neglected education, as a writer of satiric and humorous poetry. His best-known poems are *Yelisei*, or *Bacchus En-*raged, an extravagant burlesque in five cantos, which had a great vogue in Russia in spite of the fact that its wit and humour are to a great extent marred by 'raciness' and a generally marred by 'raciness' and a generally obscure style; and Ignok Lombera, or the L'Hombre Player, and The Most Shocking Fall of the Poets, each in three cantos. He also wrote two tragedles, Agrippa and Themisics, a number of tales and fables, and a few odes. A complete collection of his poems were rubbled at St. Potes. poems was published at St. Petersburg in 1809.

Mail Armour was a fabric of meshes used as a defence against weapons; chain-mail was composed of interlinked rings of metal, and was introduced into the Roman army in imitation of the Gauls, and much worn under the later empire, and also in the 12th and 13th centuries. It was very good for its purpose, a 'coat of mail' being marvellously hard to penetrate, but was very expensive to manufac-ture. Later the word mail was used for any kind of armour. See ARMS

AND ARMOUR.

Mail Coaches, sec COACHES. Maim. By the old law of England he that maimed any man, whereby he lost any part of his body, was sen-tenced to lose the like part of his own body. This relic of the lex talionis (q.v.), for long survived in Sweden, but has now disappeared from the criminal codes of all civilised nations. At the common law (q.v.), it was only the loss of those limbs or members which might be useful to a man in fight that amounted to maining, or manhem, as it was called. Blackstone in his quaint old-world fashion, assigns as a reason for so specialising what is, after all, no more than a very ordinary form of injury, that a man's limbs are the 'gift of the Wise Creator to enable him to protect himself from external injuries in a state of rom external injuries in a state of nature. It is a felony under the Injuries to the Person Act, 1861, punishable by penal servitude to the extent of life, to wound, shoot at, or cause grievous bodily harm to a person with intent to M. him. To kill, M., or wound cattle is a felony punishable by nonal servitude not avacading able by penal servitude not exceeding fourteen years. In connection with cattle-maining, the celebrated Edalji case will long be remembered for the brilliant vindication of a wrongly accused man through the efforts of Sir Arthur Conan Doyle. To M. or wound any dog, bird, or beast, not being cattle, is punishable summarily with imprisonment up to six months,

Maimachin, a vil. of Mongolia, situ-| salem, and ultimately settled near ated on the Russian frontier, opposite Kiakhta, and is an entrepot of the

Chinese trade with Russia.

Maimana, a dist. and tn. in Afghanistan. India, stands 2860 ft. above the sea. The town is large, but has no important industries, its only manufactures being textile. There are products of wheat, barley, to-bacco, and dried fruits. The population is considerably mixed, the largest proportion being Uzbeg.

Maimand, a small tn. in the prov. of Fars, Persia, is famed for its manuf. of rose-water, which it exports in large quantities to Java, Arabia, and India. It is also noted for its almonds. Pop. 5000.

Maimansingh, or Mymunsingh, a dist. of Bengal, British India, on the borders of Assam, and bounded on the W. by the Brahmaputra. The cap. is Nasirabad. Area 6287 sq. m.

Pop. 4,000,000.

Maimbourg, Louis (1610-86), a French scholar, entered the order of Jesuits and studied theology at Rome. On his return to France, he was em-ployed as a preacher. Having pubployed as a preacher. Having published, in 1682, Trailé Historique de l'Eglise de Rome, a work in which he defended the principles of the Gallican Church, the pope caused him Jesuits. He also wrote a History of the Pontificate of St. Gregory, and histories of Calvinism, Arianism, and Lutheranism.

Maimon, Salomon (1754-1800), a German philosopher, born of Jewish parentage near Mir, in Polish Lithuania. He was trained in the study of Talmud to become a rabbi, but went to Berlin to study medicine, where he was attracted by the philosophy of Maimonides. In 1770 he published a commentary on that philosopher's Moreh Nebuhim. He led the casual, eccentric life of a man of genius, de-

Cairo, and became physician to the sultan and superintendent of the The most valu-Jewish communions, able of the writings of M. are Moreh Nevochim, or 'Teacher of the Perplexed,' originally written in Arabic, translated into Hebrew by his disciple. Samuel Aben Tybbon, and into Latin by Justinian, Bishop of Nebio (Paris, 1520), and by the younger Buxtorf (Basel, 1629), with a preface, which contains an account of the life of M.; and Yad Hazakah, or 'The Strong Hand, which contains a complete digest of the Hebrew laws. It is written in remarkably good Hebrew. The best edition is that printed at Amsterdam (1702, 4 vols. fol.). M. founded a college at Alexandria for the instruction of his countrymen, in which he delivered lectures on philosophy and the Jewish laws.

sophy and the Jowish laws.

Main, a riv. of Germany, the largest affluent the Rhine receives from the right, is formed by the union of two branches, the White and Red M., 4 m. below Kulmbach, in Bavaria. The M. has a winding westward course 310 m. in length to the Rhine, into which it falls at Mainz. It is navigable for the last 220 m. The principal towns on its banks are Schweinfurt, Würzhurg Aschaffenhard, and

contains more fashionable summer resorts than any other state. The coast is much indented, and there are numerous islands including Desert Is., and Long Is. M. was at one time overrun by the Laurentian glacier, and as a result there are innumerable lakes affording excellent fishing. The northern slope is hilly, Morch Nebuhim. He led the casual, the lighest peak being Mt. Katahdin eccentric life of a man of genius, de-rending upon his friends for means of St. John and the Penobscot. Moose, and the penobscot. Moose, the standard production of the standard production of the standard production of the standard production.

part of the state is union, but in the valleys 1, and farming, especil poultry farming, and

Kant, but he owes a large debt to market-gatuding are carried on; Hume. His Autobiography was published in 1792 (Eng. trans. by J. C. largely grown. Granite, limestone, Murray, 1888). See Wolff, Maimon, largely grown. Granite, limestone, and 1813; Witte, S. Maimon, 1876. waters are found. Fishing and the and slate are quarried, and mineral waters are found. Fishing and the canning of fish, and lumber are im-portant industries. The principal manufs are cotton and woollen goods, paper and wood pulp, and boots and being a theologian, philosopher, and books. The chief manufacturing physician, was born at Cordova in Spain. Owing to the persecutions of (26,247), Bangor (24,803), Biddeford the Jews he removed to Fez in 1160, (17,079), and Auburn (15,064), the but he afterwards travelled in Jeru-first being the principal port; the

Maimonides, or more properly Moses Ben Maimon ('the light of Israel') (1135-1204), one of the most celebrated of the Jewish Rabbis, being a theologian, philosopher, and physician was born at Cardow in

for

thirty-one members, and a House of Representatives of 151 members. It was admitted to the union in 1820, previously being part of Massachusetts. Area 33,040 sq. m. Pop. 742,371.
Maine, an old French prov. It formed with Perche a military government which the control of t

ment during the 16th century, and since 1790 has been merged in the depts. of Sarthe and Mayenne, of which the caps, are Le Mans and Laval. In 1855 the bishoprics of Le Mans and Laval were separated. Until the end of the 9th century the history of M. can only be traced through that of the bishops of Le Mans. The first hereditary count of M. was Roger (c. 892 - c. 898). In 1110 M. formed party of Anjou, but in 1154 it became an English possession under Henry Plantagenet. In 1204 it again passed into the hands of the French, and in 1246 was given to the Count of Provence. In 1328 it once more passed to the crown of France, but was given to Louis, the second son of King John II. in 1356. In 1425 it was taken by the English and lost again in 1448, returning permanently to the crown of France in 1481.

Maine, Sir Henry James Sumner (1822-88), an English jurist and legal historian, eldest son of James Maine, M.D., of Kelso, Roxburgh, born in India. Educated at Christ's Hospital and Pembroke College, Cambridge. In civil ıder

law a in Ro the I1

ır in Left for India as legal member of the Indian Council, which post Professor of

Became a Temple in 18 best known 1861 (a wor

stitutions, 1875; Early Law and Customs, 1883; and Lectures on Inter-national Law, 1888. See Hutchin-son's Notable Middle Templars. and

Maine-et-Loire, a dept. in France, formed out of the old prov. of Anjou, and named from its two principal rivers the Maine and the Loire; is bounded N. by the depts. of Mayenne and Sarthe, E. by Indre-et-Loire, S. by the depts. of Vienne, Deux-Sèvres, and Vendée, and W. by Loire-Inférieure. Area 2812 sq. m. Pop. Pop.

capital is Augusta (13,211). The state | E. to W., and forms in its course is governed by a senate composed of several beautiful islands. The northern districts are drained by the Mayenne and its feeder the Oudon, by the Sarthe and its feeder the Loir, and by the Authion. The Mayenne and the Sarthe unite above Angers, and form the Maine, which after a course of about 5 m. falls into the Loire S. by W. of Angers.

Mainotes, The, are sometimes regarded as descendants of the ancient Spartans, whose land they now occupy, but more probably they are of Slavonic origin. They number 60,000. Formerly independent, they fought for the liberty of Greece, but after the death of Mavromikalis their

independence was destroyed. Maintenance, in criminal law, means the officious intermeddling in a lawsuit that in no way concerns one, by maintaining or assisting either party with money or other material aid, to prosecute or defend it. Champerty (q.v.) is a species of M. M. is a misdemeanour punishable by fine and imprisonment. Prosecutions are never heard of, owing to the great difficulty of proving a manifestly improper motive in any particular case. It is not M. to help a poor litigant out of charity, and as assistance, pecuniary or otherwise, is always justifiable where one has an interest in the subject-matter in dispute, as that of a remainderman (q.v.), or a superior landlord, though not actually a party to the action. Apparently it is never M. to assist another in a criminal prosecution or defence.

Maintenance, Cap of, in heraldry, a cap of crimson velvet turned up with ermine which is carried before a he held with distinction for seven British sovereign at his coronation, years. Appointed in 1873 Corpus opening of parliament, or other state by the hereditary bearer, , by the hereditary bearer, quess of Winchester. A simi-M., also called 'cap of dig-

the privilege of certain noble The ducal cap has two

munities, 1871; Early History of In- peaks behind, and is surmounted with the family crest.

Maintenon, a tn. of France in the dept. of Eure-et-Loir. It contains a castle and the ruins of the huge aqueduct begun by Louis XIV. to convey water to Versailles.

Maintenon, Françoise d'Aubigné, Marquise de (1635-1719), the daughter of Constant d'Aubigné and of Jeanne de Cardillac, and granddaughter of Theodore Agrippa d'Aubigné. Fran-çoise was born in the prison of Niort, where her father was then imprisoned. of 13,000. The department presents a On obtaining his release, he went pleasing variety of low hills, mostly planted with vines, and of plains, which are very fertile. The depart, Françoise and her mother then rement belongs entirely to the basin of the Loire, which river crosses it from also dying, her father's sisters placed her in a convent, where, at the age of fourteen, she was reluctantly converted to Roman Catholicism. When she was sixteen she became acquainted with the poet Scarron, Company had obtained a declaration of the midst of the refined and intellectual society which frequented in the nouse of the poet. He died in 1660, and four years afterwards she determined to discover a new route was intrusted with the cducation of the two sons whom Madame de Montespan had borne to Louis XIV, and nissioner, under the command of now becoming acquainted with the king soon fascinated him and exertices the straits of Maire, Jacques le (c. 1590-1616), a mont, rear chart, lead to the company was intrusted with the cducation of the two sons whom Madame de Montespan had borne to Louis XIV, and missioner, under the command of cornelius Schosten. They sailed past king soon fascinated him and exertices the Straits of Magellan, through a cised an extraordinary ascendency strait between Staate Land and king soon fascinated him and exercised an extraordinary ascendency strait between Staaten Land and over him. In 1684, after the death Tierra del Fuego, which they named her, and she had much influence in the selection of ministers and generals. When he died in 1715, she retired to the former Abbey of St. Cyr, and here she died. See Life by Count d'Haussonville.

Mainz, or Mayence, an ancient city and fortress of the German empire, in the grand-duchy of Hesse, 20 m. W.S.W. of Frankfort. It is situated on the 1. b. of the Rhine, just below the influx of the Main, and is connected with Kastel on the opposite side by a fine modern bridge. In the centre of the town stands the cathedral, which dates from the 13th century. Other notable buildings are the old electoral

int public Romanond church There is

furniture, pianos, machinery, leather goods, soap, etc., are manufactured. M. (ancient Maguntiacum), was founded in 13 B.c. by Drusus, and there are several interesting Roman remains.
After the fall of the Roman empire, After the fall of the rooman empire, the fort suffered from attacks by Vandals and Huns, but regained its strength by the 13th century, when it was the head of a confederacy of Rhenish cities. Gutenberg, the inventor of movable type for printing, a centre of book printing. captured by the French in 1797, and formally ceded to France by the treaty of Luneville (1801). It was restored to Germany by the treaty of Paris (1814), and was assigned to Compelled him to fiee to Venice. Hesse - Darmstadt in 1816. Pop. Later, the King of Sardinia sent him as minister plenipotentiary to St. captured by the French in 1797, and

April; the yellow flowers of M. taxifolia appear in July. If grown in the open, these plants need protection in

the winter.

the winter.

Maison Carrée, a vil. of Algeria,

7 m. S.E. of Algiers, on the r. b. of
the Harrash. Pop. 7300.

Maisons-Alfort, a tn. in the dept, of
Seine, France, on the Marne, 3 m.
S.E. of Paris. It has a veterinary
school (founded 1766). Pop. 13,500.

Maisons Laffitte, a tn. in the dept.
of Seine-et-Oise, France, on the l. b.
of the Seine, 10 m. N. of Versailles.
Pop. 8000.

Pop. 8000.

Maistre, Joseph Marie, Comte de (1754-1821), a French publicist and philosopher, born at Chambery, son of Comte François-Xavier de M., president of the Senate of Savoy. In 1792, on the approach of the republican armies he fled with his republican armies, he fled with his prince, the King of Sardinia, but a year later he returned to Chambery. Forced to leave Savoy, he settled at Lausanne, where he published his Lettres d'un Royaliste Savoisien à ses ventor of movable type for printing, Compatriotes and Adverse de quelques made it famous in the 15th century as Parents des Militaires Savoisiens à la It was Nation Française. In 1796 he made

1840), a Rou-Petersburg. Here he published a vriter, born at number of works, notably Du Pape professor of and Examendela Philosophiede Bacon. professor of and Examenation of prejudiced enemy rest, and was appointed Minister of Public Instruction (1874-76, 1888-89), and Minister of Justice (1900-1). His works include Poesia rumana, 1867; century. SeeJ. Mandoul's Un Homme Observari polemice, 1869; and Logica d'état Halien, 1900.

Maistre, Xavier de (1763-1852), a

French soldier and writer, brother of lorder. He merits consideration not above, was born at Chambery. He served in the Piedmontese army, but on the annexation of Sayov by the French soldiers he took a commission in the Russian army, in which he rose to the rank of general. He served in the Austro-Russian cam-paign and fought in the Caucasus-Finally he settled in St. Petersburg, where he died. He wrote a very pleasant fantasy called Voyage autour de ma Chambre in 1794. His subsequent works include: Le Lépreux de la Cité d'Aoste, 1811; Les Prisonniers du Caucase, 1815: La jeune Sibérienne, 1815; and L'Expédition Noclurne, 1825. See Sainte-Beuve's Portraits contemporaties (vol. 1811); and Boste contemporaties (vol. 1811); and Boste contemporaties (vol. 1811). contemporains (vol. iii.); and Rey's Xavier de Maistre, 1865. Maitland, Sir Frederick Lewis (1777-

1839), a rear-admiral, born at Rankeillour in Fifeshire, the third son of Frederick Lewis M. After serving some time in the Martin sloop with Captain George Duff, and with the Hon. Robert Forbes in the Southampton frigate, in which he was present at the battle of June 1, 1794, M. was promoted to be lieutenant of the Andromeda, April 3, 1795. He was shortly afterwards moved into the Venerable flagship of Admirable Dunrenerate naganp of Admirable Duncan in the North Sea, and in April 1797, went out to the Mediterranean to join Lord St. Vincent, by whom he was appointed to the Kingfisher sloop. In Dec. 1798 the Kingfisher was wrecked, M., who was in temporary command, was tried by courted and honourable, acquitted porary command, was tried by court-martial and honourably acquitted. Immediately afterwards he was ap-pointed flag-lieutenant to Lord St. Vincent. From 1827-30 he com-manded the Wellesley in the Medi-terranean. He attained his flag July 22, 1830. He had already been nominated a C.B. on the reconstruc-Nov. 17, 1830, he was advanced to be a K.C.B.

Maitland, Sir Richard (1496-1586). of Lethington, son of William M. of Lethington and Thirlstane, who fell at Flodden, and of Martha, daughter of George, Lord Seaton, studied at St. Andrews and in France, and on his return to Scotland was successively employed by James V., the Regent Arran, and Mary of Lorraine. About 1551-52 he received the honour of knighthood, became a lord of the Court of Session in 1561 (before which, however, he had the misfor-tune to lose his sight), and Lord Privy

only as an eminent and upright lawyer, but as a poet, a poetical antiquary, and an historian. All his own verses were written after his sixtleth year, and show what things he had most deeply at heart. For the most part, they consist of lamenta-tions for the distracted state of his native country, the feuds of the nobles, the discontents of the common people, complaints 'aganis the lang proces in the courts of justice,' and the depredations 'of the border A complete edition of M.'s robbers. original poems was first published in 1830 (one 4to vol.) by the Maitland Club, a society of literary antiquaries, taking its name from Sir Richard. His collection of early Scottish poetry was a work undertaken, if not completed, before his blindness attacked him. It consists of two MS. volumes, now in the Pepysian Library, Magdalene College, Oxford. M.'s principal historical performance is the Historic and Cronicle of the Hous and Surename of Seyloun, etc.

Maittaire, Michael (1688-1747), a classical scholar, born in France, of Protestant parents. At the revoca-tion of the Edict of Nantes, his family settled in London, and Michael was sent to Westminster School. He took his M.A. at Oxford in 1696, and re-turned to Westminster as second master (1695-99). He edited many classical works with indices, and wrote: De Graca Lingua Dialectis, 1706; Annales Typographici ab artis inventæ origine ad annum 1557, 1719-41; and Marmora Oxoniensa. 1732.

Maiwand, in Afghanistan, situated 35 m. N.W. of Kandahar, and was the scene of a British defeat by Ayub Khan, July 27, 1880

Maixent (or Maxence), St. (c. 447-515), Abbot of Saint-Saturnin, borr at Agde. He entered the monastery of Saint-Saturnin in Poitou and be came abbot there about 500. In 507 he received the visit of King Clovis who came to request his prayers or behalf of an expedition against the Visigoths. His day is June 26.

Maize, or Indian Corn (Zea mays) a cereal grass with broad leaves and stout succulent stems. When ripe the valuable seeds are arranged in compact rows on a rachis; they are white, yellow, red, or purple in colour, very firm and flattened at the apex. The crop is of great economic importance which, however, he had the misior-tune to lose his sight), and Lord Privy in the warmer parts of America, Seal in 1562. M. was one of the best Southern Europe, India, and Aus-men of his time. In an age of violence, fanaticism, and perfidy, he was honourably conspicuous by his moderation, integrity, and anxiety for the establishment of law and sweet or sugar corn. It is also grown

fermented in S. America to produce

M. beer.

M, beer.
Majesty (Fr. majesté, Lat. majestas, grandeur, greatness, from the base mag., as in magnus, great, major, greater, etc.), dignity, greatness, a term used especially to express the dignity and power of a sovereign. This application is to be traced to the sea of majestas in Latin to express use of majestas in Latin, to express the supreme sovereign dignity of the Roman state, the majestas

or populi Romani, hence lædere or minuere, was high treason, *crimen* Mommsen conjectures tha

of crimen majestatis or lèse-majeste in earlier times related exclusively to violation of the rights of the plebs, and only later extended to violations of popular rights generally. There is, however, little evidence in support of this conjecture. In its more precise use, crimen majestatis was distinguished from perduellio, which connoted essentially acts hostile to the state, as treason and desertion, whereas crimen majestatis meant rather some act involving an attack on the respect due to the dignity or sovereignty whether of the people or their representative the king. Later usage, however, made no distinction between lese-majesté and perduellio, except to assign a much lighter punishment to the former. The term majesty was strictly confined in the middle ages to successors of the Roman emperors in the West. Later, the word is used of kings also. In the | jud England the use is genera to the reign of Henry fullest form in English Most Gracious Majesty.

Majolica, a name properly applied to a species of Italian ware in which the body is coated with a tin enamel. on which is laid and fired a painted decoration. It is also applied to similar wares made in imitation of the Italian ware in other countries. word in Italian is Maiolica. usually been supposed that this ware first came from the island of Majorca, but it is more likely that the name was given by the Italians to the lustred Spanish ware imported by ships hailing from the Balearic Isles.

Major, in the army, the lowest rank of field officer. Each infantry battalion has two, and each cavalry regiment three, on its strength. The Engineer Corps has altogether about and the Marines about 60, and divided between the infantry artillery divisions. In the field artillery divisions. In the field Ms. are always mounted, and usually are always mounted, and usually Palma (q.v.), the capital.

command the attack and the reserve.
On home duties the M. is one of the
most important officers. He assists old enough to manage his own affairs.

as a fodder crop. The ripe seeds are the commanding officer in all matters of routine and discipline. Whilst in garrison they serve in turn as field officer for the day, and when the occasion rises as presidents of the district courts-martial. Their pay varies from 16s, in the infantry of the line regiments to £1 4s, in the household cayalry. A sergeant-major of a regiment is a non-commissioned officer who in general superintends the military exercises of the soldiers

n music, greater. A M. sts of four semitones, a of three. A M. tone is the having the ratio 8:9; a having the ratio 9:10. Intervals have had the term M. applied to t

Major an histor N. Bern.

and Paris, was the teacher of John Knox and George Buchanan, In 1506 he was a doctor of the Sorbonne, and in 1519 became professor of divinity at St. Andrews. He wrote in Latin treatises on divinity and morals, and a *History of Greater Britain*, in which the separate histories of England and Scotland (Historia De Gestis Scotorum) were brought together, published at Paris (1521). In his writings, while upholding the doctrinal teaching of Rome, he was outspoken in condemning the corruptions of cler his

's Dialectics. a (Sp. Mallorca), the largest of the Balearic Isles (q.v.), lies 107 m. S.E. of the mouth of the Ebro, the nearest point of the Spanish coast, and 171 m. N. of Algiers. Its greatest length (from E. to W.) is 64 m., and its breadth (from N. to S.) 48 m., with an area of 1310 sq. m. The N.E. half of the island is mountainous; the other parts are finely diversified with hills, valleys, and plains. The climate is healthful, the sea-breeze preserving a nearly equable temperature over the whole island. The inhabitants,

in th numt.. and industrious, and mostly employ themselves in agriculture. The chief products of the island are marble. slate, plaster, the common cereals and legumes, oranges, silk, lemons, oil, wine of excellent quality, olives, and aromatic herbs. The chief town is

By English law an infant attains his carry no shield, and though many M. at twenty-one (see Infancy). 2. Rule by M., or the decision of any issue by the votes of the M. is the working principle of the democratic idea of representation. It has up to now been generally considered to be the only practicable method of party government, but the advocates of proportional representation and representation of minorities are gaining increased support the more it is realised both that the mere voice of the M. is not necessarily right, and that whether it be so or not on particular issues, the views of minorities may none the less be entitled to respectful consideration. On the constitutional convention whereby no cabinet in England can either take office or retain it without a 'working 'i.e. a more or less substantial M., see under CABINET. 3. To join the great M., i.e. to die. A classic euphemism, the first English adaptation of which is attributed to Young's lines:

'Life is the desert, life the solitude: Death joins us to the great majority.

Majuba Hill, in Natal (properly Amajuba, Zulu for 'hill of doves'), a mountain in Northern Natal, part of the Drakensberg range, rising about 7000 ft. above the sea, and over 2000 ft. above the level of the surrounding country. It overlooks the river fishing. A considerable trade is pass through the Drakensberg known carried on in the products of the as Laing's Nek, and is 8 m. S. of the Transvaal border and 18 m. N. of the town of Newcastle. The railway from Durban to Johannesburg skirts the base of the mountain. The Boers defeated the British here in 1881, General Colley being killed.

Majunga, Madganga, or Mojanga, in Madagascar, on the N.W. coast, just N. of 16° S., and Diégo Suarez, is an important port for foreign trade.

Pop. 7000.

Makalla, or Mokalla, a port of Arabia, 300 m. N.E. of Aden, the principal port of Hadramaut. Pop.

18,000.

Makalla, Baggara Arabs of Semitic origin, so called because they are great cattle owners and breeders. They occupy the country W. of the White Nile, between the Shilluk White Nife, between the Shilluk territory and Dar Nuba, being found principally in Kordofan. They are true nomad Arabs, having intermarried little with the Nuba and having preserved most of their national characteristics. The date of their arrival in the Sudan is uncertain; The date of their

possess fire-arms, the customary weapons are lance and sword.

Makari Kari, a salt lake of Bechuanaland, S. Africa. Length 170 m.; breadth 100 m.

Makart, Hans (1840-84), an Austrian painter, born at Salzburg, son of an inspector of the imperial castle. Aptly called the first German painter of the 19th century. When he, as a youth, entered the Vienna Academy, German art was under the rule of Cornelius's cold classicism. It was entirely intellectual and academic. and it is not surprising that M., poor draughtsman to the last, with a passionate and sensual love of colour, was found to be devoid of all talent. He went to Munich, and there attracting Piloty with his 'Cupids' and 'Plague in Florence,' his fame became firmly established. He used such bad pigments that the majority of his large paintings have perished.

Make, a tn. of Hungary, cap. of the co. of Csanad, 135 m. S.E. of Budapest. The most noteworthy building is the palace of the Bishop of Csanad. whose usual residence is in Temesvar. The town possesses numerous mills, and the surrounding country is fertile, producing corn and wine, and affording excellent pasturage for cattle. Many of the inhabitants subsist by

vicinity.

cinity. Pop. 34,000. Mako, Paul (1723-93), a Hungarian savant and mathematician, born at Jasz-Apath and died at He taught philosophy and classics at different Jesuitical colleges. Afterwards he became director of the faculty of philosophy at the Hun-garian University. His works include dissertations on lightning and lightning conductors, Carminum ele-giacorum, and treatises on logic. and the differential metaphysics. calculus.

Makran, a dist. in the S.E. Persia and S.W. of Baluchist bounded S. by the Arabian Sea. Baluchistan. is noted for its fruit. Area 26,000 sq. m. Pop. 78,000.

Makrizi Taki Addin Abu Ahmed

Mohammad (1360-1442), an eminent Arabic historian and geographer. born in Makriz, near Baalbee. He early devoted himself to the study of history, jurisprudence, tradition, astrology, etc., at Cairo, where also he afterwards held the offices of Mohtasib or inspector of weights and they appear to have drifted up the measures, of khatib and iman at Nile valley and to have dispossessed the original Nuba population. A purely pastoral people, they move on Moslem (Kufic) coins, weights. from pasture to pasture, as food becomes deficient. The true tribesmen and translated by Tychsen (into from its conquest by the Moham-medans, as well as a description of its natural history and antiquities and further attacks the degeneracy of the of the manners and customs of the inhabitants. He commenced writing On the Important Personages who had Visited Egypt, and intended to fill eighty volumes, but only a small eighty volumes, but only a portion of these (one autograph volume is in the Imperial Library at Parisl was really accomplished. He portion Paris) was really accomplished. died in Cairo.

Malabar, a maritime dist. of British India in the presidency of Madras, is bounded on the E. by the dist. of Coimbatore, while on the W. its shores are washed by the Arabian snores are washed by the Arabian Sea, and it extends in lat. from 10° 15′ to 12° 18′ N. Area 5800 sq. m. Pop. (estimated) 3,000,000. The surface it occupied in the E. by the Neilgherries, and the Western Ghats cover a great portion of the district. The name of this district is applied to the whole southwestern coast of Southern south-western coast of Southern India. Calicut is the capital.

Malabon, a dist. of the Philippines

on the Isle of Luzon.

Malabuvoc, a dist. of Cebu Is.,

Philippines.

Malacca, a tn. on the W. coast of the Malay Peninsula, which, with the territory lying around and behind forms one of the Straits Settlements, and gives its name to the strait which divides Sumatra from the Malay Peninsula. Its name, which is Mělaka, is that of a species of Jungle fruit, and is also borne by the small river on the right bank of which the old Dutch town stands. The Dutch town is connected by a bridge with the business quarter on the left bank, which is inhabited exclusively by Chinese, Eurasians, and Malays. M., now a somnolent town, a favourite resort of rich Chinese who have retired from business, is visited by few ships, and is the least important of the three British settlements on the straits which give their name to the colony. Since 1511 it has continued to be the possession of one or other of the European powers. Area of colony 660 sq. m. Pop. 96,000. Malachi, the last of the minor pro-

phets, about whose person nothing is known. His personal existence seems doubtful, for the Septuagint has in i. 1, 'by the hand of his messenger'; the Targum has 'by the hand of Mehemiah, the period during which edition of Ware's Bishops.

Judah was a Persian province. It Malacology (from Gk. μαλακός, soft, was written after the rebuilding of λόγος, discourse), the science which is

Latin) and by Silvestre de Sacy (into the temple. A comparison of the Book French-Arabic chrestomathy, q.v.), of Malachi with Ezra and Nehemiah but his most important work is his shows much similarity of subject-pescription of Egupt, which gives an account of the history of the country demnations of intermarriage with the from its conquest by the Moham-leathen and the people's laxity in the priesthood.

Malachite, a mineral consisting of basie cupric carbonate. CuCO,Cu (HO). It has a fine green colour; it generally occurs massive, mamiliated, remiform, or botryoidal surface. It is occasionally found as dark green monoclinic crystals, and when associated with limonite as compact fibrous or earthy masses. It is found in great quantity in Siberia and the finer quality is used for making ornaments, mosaic, etc., as it takes a fair polish. It also occurs with other copper ores in Russia. Australia, Arizona, etc., and is smelted with other minerals.

Malachite Green, a brilliant green dye derived from coal-tar. It is a double salt

of zinc

triphenyl

and wool without any previous preparation of the material, but cofton requires to be mordanted with tannin

and tartar emetic.

Malachy, St., or Malachy O'Morgair (1094-1148), an illustrious Irish prelate, born at Armagh, of a noble family. Early put himself under the tutelage of a pious recluse named Imac, and his ascetic example being followed by other young men a monastery grew up round the cell of Imac. Ordained priest at the age of twenty-five, he preached among the poor. Having sought out Malchi, Bishop of Lismore, he learnt from him the rule of ancient ecclesiastical discipline, and on his return was placed at the head of the Bangor abbacy. Thence he took the episcopal see of Connor, but on the ruin of this town by the King of Ulster he returned to Armagh, of which he was elected archbishop in He endeavoured to revive ancient discipline in this diocese, and provided the parishes with pastors. In 1135, having got Gelax accepted as his successor, he returned to Connor, installed a bishop there, and himself went to live in Down, where he founded a new episcopal see. In 1148 he set out for Rome to confer with Pope Eugene III. on the needs of the Irish Church, but expired at Maleoni (or, of my messenger), whose The life of St. M. was written in name is Ezra the scribe.' The prophery belongs to the age of Ezra and into Italian by Maffei. See Harris' Nehemiah, the period during which edition of Ware's Bishops.

concerned with soft-bodied inverte- the abdomen but extends over the brates and particularly molluses.

Malacopterygii, Cuvier's name for an order of fishes in which the rays of the fins are soft and cartilaginous

and not pointed at the extremities. Malacostraca, that division of the Crustacea which includes the higher forms, such as crabs, lobsters, shrimps,

woodlice, and sand-hoppers. Maladetta, the name of a group of mountains in the Central Pyrenees. situated on the borders of France and It contains the culminating peak of the entire range, the Pic de Nethou, or Pico de Aneto, sometimes called the M., which has an elevation

of 11,165 ft. Malaga, a scaport of Spain, and cap. of a prov. of the same name, on a bay of the Mediterranean, 65 m. N.E. of Gibraltar. The town is enclosed by mountains and commanded by a fine old Moorish castle, called the Gibralfaro, built in the 13th century on the site of a former Phoenician stronghold. Other important buildstronghold. John Physical Control of the control of mildness and constant sunshine, which make the place a favourite resort for invalids. The harbour, which is formed by several moles, is capable of holding hundreds of ships, and may be entered during any wind. M. is a very important commercial centre, and exports wine, olives, figs, raisins, lemons, etc. The manufs. include textiles, rope, leather, etc., and there are cigar factories, sugar mills, and iron foundries. Pop. 133,045.

Malaga Wine is produced chiefly from the Axarquia dist. of Malaga, and the finest is made from the muscatel grapes, Dulce and Lágrimas being the best-known vintages.

Malakoff: 1. Atn. in France, dept. of Seine, a S.W. suburb of Paris. Originally it was called California,

Originally it was called California, but was renamed as above in 1848. Pop. about 16,600. 2. A defence of Sebastopol, Crimea, noted for its storming by the French in Sept. 1855. Malalas, Johannes, a Byzantine chronicler of the 6th century, was probably of Syrian origin, but little is known of his life. He wrote a universal history, from the creation to the reign of Justinian, which was edited by Humphrey Hody, Oxford, 1691. 1691.

Malalbergo, a com. of Emilia, Italy, 15 m. N.N.E. of Bologna. Pop. about 5500.

Malapterurus, genus а of fish typified by M. electricus, the electric catifish, found in the fresh water of

whole body.

Malar, Lake, in Sweden, extends inland from the Baltic for 81 m. and varies in breadth from 2 to 23 m.; the R. Arboga enters its W. end and serves to connect it with Lake Hjelmar. Stockholm is situated on the strait connecting Lake M. with the Baltic. Malaria (from It. mala, bad, and

aria, air), a diseased condition common in tropical and marshy districts, and associated with parasites of certain gnats and mosquitoes. The names marsh-fever, jungle-fever, ague, etc., are applied to forms of the disease, and the names remittent, intermittent, tertian, quartan fever, etc., to forms characterised by particular kinds of periodicity. The paroxysms comprise periodicity. The paroxysins commissioned, hot, and sweating stages, which recur in that order. The first stage is marked by shivering and a feeling of chill on the part of the patient, although the body temperature is much higher than normal. The cold feeling is due to the constriction of the surface blood-vessels; the interior vessels become correspondingly gorged, and there is considerable enlargement of the spleen and an in-creased flow of urinc. The second stage commences with a feeling of heat internally which gradually proceeds to the surface, giving the usual leverish sensations of excessive heat, increased thirst, dry skin, and mental confusion or delirium. The body temperature is still high, but not so high as in the 'cold' stage, the enlargement of the spleen continues, but the flow of urine becomes scanty. third stage commences with amelioration of the dry condition of the skin, proceeding to profuse perspiration. The body temperature falls, the patient feels considerably exhausted but easier, and may drop into a deep sleep. If there is an interval of normal conditions between the paroxysms, the fever is known as intermittent; if the symptoms are merely ameliorated for a time, the fever is called remittent. If the paroxysms recur daily, the fever is designated quotidian; if on alternate days, tertian; if two days elapse between paroxysms, quartan. paroxysms occur in a day, the fever is called double quotidian. The quotidian form usually occurs in the morning, the tertian at noon, and the quartan in the afternoon. The cause of M. is the presence of specific pro-tozoa in the blood. It is now sufficiently well established that these protozoa are parasitic on the mosquito, and that human beings are infected from the bite of a mosquito. tropical Africa. The electric organ is When they are established in the of cutaneous origin and is thickest on blood, they multiply by throwing off

spores and at the same time liberate a toxin which causes the feverish symptoms. The manner in which the cycle of reproduction and growth is carried on accounts for the periodicity of the malarial paroxysms, the tertian, quartan, etc., forms being due to parasites from different species of mosquito. The process of reproduc-tion may recur again and again as long as the patient lives, the protozoa acting upon the blood and turning the hemoglobin into melanin. The parasites, however, have another phase of existence which they pass in the body of the mosquito, the process of reproduction being in this The mosquito thus serves as an intermediate host to carry infection from one patient to another. The provention of M. is, therefore, concerned with the extinc-tion of the mosquito. Mosquito nets are useful as a means of defence if the meshes be sufficiently fine, but permanently healthy conditions only be established by preventing the reproduction of the kinds of mosquito or gnat responsible for the infection. These mosquitoes belong to the genus Anopheles, different species of which thrive in different countries. The life history of the mosquito comprises stages as ovum, larva, nympha, and insect. The ova are deposited on the of still or slowly moving water, the larva also floats about on the water, and the complete insect is developed within thirty days of the deposition of the ova. The partial or complete extinction of the insect therefore be may thoroughly draining of waters which tend to nant. Even if the insec

the speckied-wing mosquito, still dourishes in England with no consequences as to M., although it is still associated with the disease in other parts of Europe and in America. The only effective treatment for M. once contracted is the administration of contracted is the administration of quinine, which destroys the parasite. The doses should be from 10 to 30 grains before the paroxysm; the sulpeninsula and islands. These three phate is most commonly employed, and may be given in solution by the mouth, rectum, or mouth, rectum,

Malatia, a tn. of Asiatic Turkey, in the vilayet of Mamuret-ul-Aziz, 100 m. N.E. of Marash, near the Euphrates. It is an important trading centre, and is noted for its orchards and vineyards. About one-fifth of the population are Armenians and the rest Turks; in 1895 M. was the scene of a terrible massacre of Chris-

tians. Pop. 30,000.
Malay Apple, the globular fruit of Eugenia malacensis. It is fragrant and edible, and like the fruit of other species of Eugenia, called rose apples, is made into preserves. It is often grown in greenhouses.

Malay Archipelago, see. INDIES.

Malays (properly Malayus, a Malay word, the derivation of which has not yet been satisfactorily ascertained) is the name given, in a restricted sense, to the inhabitants of the Malay Peninsula, but in its wider accentation to a great branch of the human family, dwelling not only in the but in peninsula mentioned islands, large and small, of the Indian Archipelago, in Madagascar, and in the numerous islands of the Pacific. In physical appearance, the M. are a brown-complexioned race, rather darker than the Chinese, but not so swarthy as the Hindus. They have long, black, shining, but coarse hair, little or no beard, a large mouth, eyes large and dark, nose generally short and flat, lips rather thicker than those of Europeans, and cheek-bones high. In stature, the Indo-Malays are for the most part below the middle height, effected by while the Polynesians generally ex-

formed limbs, and are small about the wrists pressed for a time, the cycle of exist- and ankles. Such is the general ence of the parasite may be broken appearance of the M. proper, or in- and the mosquito itself is thus ren- habitants of the peninsula and Indian and the mosquito itself is hus rendered comparatively harmless. For example, Anopheles maculipennis, or the specified-wing mosquito, still dourishes in England with no consequences as to M., although it is still associated with the disease in other parts of Europe and in America. The only effective treatment for M. once contracted is the administration of quinine, which destroys the parasite.

o, when the Portuguese first As a prophylactic in the waters of the Archi2 to 4 grains are tal
by dwellers in malarial regions.

Malaspina Glacier, Alaska, N.

America, is one of the largest glaclers in the northern regions; it lies W. of Yakutal Bay and is fed by the snows of St. Elias range.

O, when the Portuguese rist in the Archijust as they do at the present having existed also for two centuries and a half before that event, as, without doubt, they did in times far earlier. Still, while so widely of St. Elias range. All are essentiatly islanders, and have much of the daring and enterprise for which nations familar with the sea are famous. Their original seat is by themselves stated to have the island of

the peninsula f Borneo claim

to have had a Menangkaho origin. Palembang, however, also in Sumatra has been mentioned as the original seat of Malay civilisation; and others, again, point to Java as the source from which both Menangkabo and Palembang received their first settlers. 'The Javanese,' says Crawfurd, 'would seem to have been even the founders of Malacca. Monuments, which prove the presence of this people in the country of the Malays. have even been discovered. The Malay language is simple and easy in its construction, harmonious in its pronunciation, and easily acquired by Europeans. It is the lingua franca of the Eastern Archipelago. Of its numerous dialects, the Javanese is the most refined, a superiority which it owes to the influence upon it of Sanscrit literature. Many Arabic words have also been incorporated with it, by means of which the Javanese are able to supply the deficiency of scientific terms in their own tongue. In religion, the civilised M. are Mohammedans, having embraced that faith in the 13th or 14th century. The tribes in the interior and the men of the sea' have either no religion at all, or such as can be regarded only in the light of most de-based superstition. The moral character of the Indo-Malays generally does not stand high; they are passiontreacherous, and revengeful. Although good sailors and able to amass wealth by legitimate comamass wealth by legitimate commerce, they prefer piracy, and numerous have been the victims among European traders to Malay treachery and daring. Indeed, so little faith have Europeans in their professions or engagements, that they will never engage more than two or three of them in a ship's crew, for fear of unpleasant if not disastrous consequences. See Arnold Wright and T. H. Reid, The Malay Peninsula, 1913; and Sir Hugh Clifford, Malayan Monochromes, 1913.

Malay States (Federated). Sembilan is situated immediately to the N. of the territory of Malacca, and is drained eastwards by the R. Moar. Its surface is diversified. The upper valleys and mountains are densely wooded: the lower valleys are fertile, producing rice and fruits in abundance. Elephants and cattle are succeeded in 1005 by defeating and reared, and tin is mined, but the in-killing Kenneth III. In 1018 he won

essentially the same language. The habitants of these states depend M. are essentially islanders, and have largely for their prosperity upon agin much of the daring and enterprise culture. Area 2600 sq. m. Pop. culture. Area 2500 sq. m. Psp. 130,201. Pahang has an area for 14,000 sq. m. Pop. 117,595. It is mountainous in the W. descending to Marsby Plains in the E., and is rich in gold, tin, and galena. In all there are 680 m. of railway in the states, including the Johar State Railway (1204 m.) which was opened for traffic in July 1000. 1909, thus establishing through communication between Penang and Singapore. There are also 2232 m. of road and 1543 m. of bridge paths, while the principal rivers are navigable for small boats. The chief export and source of revenue is tin, but rubber, cocoanuts, rice, and coffee are extensively cultivated. The climate is very uniform, the average maximum shade temperature being 90° and the minimum 70°. The states maintain a highly efficient regiment of Sikh troops, and are policed by a mixed force of Indians and Malays, officered by Europeans. The total area is 27,700 sq. m., with a pop. of 1,035,933, Perak, on the western side of the Malay Peninsula, has an area of 8900 sq. m., and is traversed by two chains of mountains rising to a height of 7000 ft. It is well watered, the chief river being the Perak, and produces tin, rice, maize, fruits, and vegetables. In addition to tin there exists also gold, lead, zinc, tungsten, copper, bismuth, kaolin, marble, granite. arsenic, mercury, manganese, and plumbago. The climate is healthy, and the population (494,123) consists of Malays and Chinese. mainly Selangor (area 3200 sq. m.) stretches about 85 m. inland from the Straits of Malacca, and has mountains on its E. frontier with valuable tin mines, but consists, for the most part, of lowlands traversed by the Selangor and Klang rivers. Kuala Lumpor, the capital, is also the federal capital of the Malay States. Pop. 294,014.

Malchin, a German tn., dating from the 13th century, in Mecklenburg Schwerin, situated about 25 m E.S.E. of Güstrow on the Peene, which runs into the Kleines Hoff. Contains cement works. Pop. 7000. Malcolm I. (Macdonald) (d. 954).

King of Scotland, succeeded to the crown in 943. He made a treaty with Edmund the W. Saxon king in 945, and renewed it with his successor, Eadred, but in 950 the Scots made a foray to the Tees. They were, however, unable to stay the progress of the W. Saxons, and in 954 North-umbria was lost and M. slain.

Malcolm II. (Mackenneth) (d. 1034),

a great victory over Eadulf Cudel, of which led to the cession of Lothian to tle Scottish kingdom, and about the same time Cumbria N. of the Solway became an appanage of the kingdom. In 1031 M. did homage to Canute.

101

fat of

on umbria in 1054. He married Margaret, sister of Edgar Atheling, and did homage to the English kings, 1072

and 1091. He was treacherously slain while invading Northumberland. Malcolm IV. (1141-65) (the Maiden), King of Scotland, succeeded his grandfather, David I., in 1153. He surrendered Northumberland and Cumberland to Henry II. in 1157, and received in return Huntingdon. served as an English baron in the expedition against Toulouse (1159), and as a result was engaged in suppressing rebellions in Scotland (1160-64).

Malcolm, Sir John (1769-1833), an

Indianadministrator and diplomatist, born at Burnfoot in Scotland. He entered the service of the East Indian Company in 1782, and in 1792 was appointed Persian interpreter to the nizam of the Deccan. From 1795-98. he was military secretary to the commander-in-chief at Madras, and in 1798 was appointed by Lord Wellesley assistant to the resident at Hy-He was envoy to Persia derabad. He was survey (1800, 1807, 1810); private secretary to Wellesley (1801-2); political agent to Wellesley during the MahrattaWar (1802); he and sevenor of Powher (1802). (1803-4); and governor of (1826-30).He was made 1815, and was M.P. for I (1831-32). He wrote Politi of India, 1811; History of P

Malcomia, a genus of crucifers, of which the best known species is M. maritima (Virginian stock), a valuable garden plant with numerous varieties of various colours, giving a

lengthy succession of bloom.

Malda, a dist. in Bengal, India. The people are engaged in agriculture, and the products are silk, indigo, and mangoes. The Mahananda R., a tributary of the Ganges, flows through the centre of the district, upon which is situated the town of Malda, the capital. Pop. (of district) 884,100.

Maldegem, or Maldeghem, a com. of Belgium in the prov. of E. Flanders, 9 m. E. of Bruges, Pop. 10,500. Malden: I. A par, and vil of Survey England, on the R.

of Middlesex co., Massachusetts, U.S.A., on the R. Malden, 5 m. N. of Boston. It is noted for the manuf. of rubber boots and shees. Pop. (1910) 44,404. 3. An island in the S. Pacific which has an active trade in guano. Malcolm III. (called Canmore) (d. It was taken possession of in the name of the Queen of Great Britain in 1864.

Maldive Islands, a group of coral islands in the Indian Ocean, which by a sultan. They number in all about 12,000, and of these over 200 are inhabited. The natives are expert navigators, and are largely engaged in 'bonito' fishery, indeed that fish is one of the chief exports, and is the principal article of food. Mali, or King's Is., is the capital of the group and the residence of the Sultan, and from it the trade, which is carried on chiefly with Calcutta, is conducted. The principal exports are bonito fish, tortoise-shell, cocoanuts, coir-yarn, copra, and cowries. The climate is copra, and cowries. The climate is unhealthy. Pop. 50,000, all of which are Mohammedans

Maldon: 1. A municipal bor., market tn., and river port of Essex, at the influx of the R. Chelmer to the Blackwater estuary, 44 m. E.N.E. of Lon-There are manufs. of crystallised salt, breweries, an oyster fishery, and some shipping. Many Roman remains are in the neighbourhood. Pop. (1911) 6253. 2. A mining tn. in Talbot co., Victoria, at the foot of Mt. Tarrangower, 40 m. from Sandward Dec 1962.

hurst. Pop. 2800. o the Anglo-Saxon s a contest between later King of Nor-derman Byrhtnoth,

Administration of India, 1833; and which resulted in the death of Byrht-Life of Clive (pub. 1836). noth. It is described in an epic contemporary poem, but no one of the enemy is mentioned by name, as it was written immediately after the battle before the poet had time to find out any information about the opponents. copy of the poem is contained in Sweet's Anglo-Saxon Reader.

Maldonado, a seaport and naval station of Uruguay, on the Rio de la Plata, 70 m. E. of Montevideo. The island of Gorriti shelters its harbour. It has limestone quarries, and exports cattle and hides, and limestone to Montevideo. Pop. 30,735.
Malebranche, Nicolas (1638-1715),

a French philosopher, born at Paris, where his father was president of the Chamber of Accounts. At the age of

England, on the R.

3 m. from Kingst
Merton College, afterwards removed and of the fathers of the Church, till

to Oxford, was founded here in 1264. Descartes's treatise, De Homine, fall-Pop. (with Coombe) 12,140. 2. A city ing into his hands, attracted him to

philosophy. His famous work, De la | in 1779, are still quoted as authorities Recherche de la Vérité, was published at Paris in 1674. It shows great depth and originality of thought, combined with perspicuity and ele-gance, had for its object the psycho-

famous Vision en Dieu), that all beings and thoughts exist in God. system is a kind of mystic idealism. It was immediately opposed by Ant, Arnauld, Bossuct, and many others, and was subjected to a thorough and critical examination by Locke and Leibnitz. Besides the work above mentioned, M. wrote a Traité de Morale, a Traité de la Communication de Mouvement, and Conversations

> Lastrea amonest | - green,

from a stout root stock like the feathers from a shuttlecock, the fern exhibits wide variation in type, and has been split up into three sub-species. The spore capsules are borne in circular sori or heaps on the back of the fronds, and at first are covered by a kidney-shaped The plant, and especially the root, contains anthelmintic properties, and a liquid extract is administered to expel tape-worms.

Malegaon, a municipality and can-tonment of the subdivision M., in British India, Bombay, on the Girna

. Pop. 19,000. Maler Kotla: 1. A native state of India in the Punjab, one of the Cis-Sutlei states which came under British influence in 1809. Area 162 sq. m. Pop. 78,000. 2. A tn. of India, cap. of the above, 30 m. from Ludhiana. Pop. 21,000.

Malesherbes, Chrétien Guillaume de Lamoignon (1721-94), the associate of Turgot and those illustrious statesmen who sought by moderate reforms to prop the weakness of the old monarchy of France, was born at Paris. Among other offices he held those of president of the Cour des Aides and minister of the king's household. When Louis XVI. was brought to trial, M. claimed the post of his defender. His fearless intrepidity entailed upon him the hatred and suspicions of the party in power, and he was guillotined on April 22, meeting his fate with resignation. works of M., who was a member of the French Academy and of the Academy of Belles Lettres and Inscriptions, are mostly on subjects of

on financial questions.

Malet, Sir Edwin Baldwin (b. 1837), an English diplomatist, born at the Hague, Holland. Became chargé des archives at Paris, holding the pist during the Commune. He was minis-ter-plenipotentiary at Constantincple from 1878-79 and at Brussels in 1833; ambassador at Berlin during 1884 95, and a member of the International Arbitration Court at the Hague in

Malet, Lucas, sceKINGSLEY. 4

CHARLES. Malherbe, François de (1555-1628), was born at Caen in Normandy. He accompanied Henri of Angoulème, son of Henri II., who went to Provence as governor in 1579, and remained attached to his household till that prince's death in 1585. He was patronised by Henri IV., upon whose death his widow, Mary de Medicis, settled a pension upon him. M. has been styled by competent judges the restorer of the French language and poetry. See Vie de Malherbe, by Racan, Œuvres, Paris, 1797.

Malibran, Maria Felicità (1808-36), an operatic singer, born at Paris, a daughter of Manuel Garcia, a Spanish tenor. She made her début in 1825 in The Barber of Seville at Covent Garden, and then went to America. She later sang with great success in France

and Italy.

Malic Acid, or Monohydroxysuccinic Acid (C.H.O.), an organic acid which occurs in the free state and in the form of its salts in many fruits, in-

cluding ash ber

crystals solves readily in water and alcohol. It may be prepared by boiling bromosuccinic acid with silver hydroxide and water, or by treating aspartic acid with nitrous acid. It is usually obtained by squeezing the juice out of unripe mountain-ash berries; the juice is boiled with milk of lime, and the resulting precipitate is dissolved with hot nitric acid, crystals of cal-cium hydrogen malate being formed. The salt is then decomposed with oxalic acid.

Malice, in popular language means ill-will or spite against a particular person or class of persons. In law it occasionally

in the case c prosecution law of libel defence of '

buttable by proof of such M. in the defendant. But its general use in the criminal law is notoriously devoid of any special significance, and in pracnatural history and rural economy. tically all cases it merely connotes His Discourset Remonstrances, printed that which is unlawful and is tantasonse, is generally called express M., or M. in fact, in contradistinction to technical or implied M. i.e. the M. or criminal intention that is really no-thing more than an interence of law resulting from doing the objectively criminal act. For the law infers that every one must contemplate the necessary consequences of his own act and that every act in itself unlawful, is wrongfully intended, i.e. is malicious, in the absence of proof to the contrary; or, in other words, the wilful doing of a wrongful act without lawful excuse is 'malicious' apart from moral considerations of malevolence or any other state of mind indicative of motive, e.g. mur-der is generally defined as killing with 'M. aforethought,' or prepense, while manslaughter (q.v.) is defined as killing another without M., either express or implied. There is an obvious danger of confusion here, though in practice the law is perfectly clear. Any act the likely consequence of which to the knowledge of the agent is the death of another is murder, and it is a matter of complete indifference to the law whether the murderer had or had not the slightest wish to injure or whether he had any knowledge of the deceased at all. (See also MALICIOUS INJURIES TO PROPERTY.) In civil actions M., or indeed any other state of mind, is for the most part irrelevant. It was, however, doubted for some time whether, in actions for some time whether, in actions for procuring breach of con-tract (generally actions against trade unionists by aggrieved employers), M., in the sense of personal ill-will or intent to injure the plaintiff rather than benefit the defendant, was not the whole gist of the action, but it is now settled law (1) that a violation of a legal right committed knowingly gives a right to sue for damages, not on the ground of malicious intention, but simply because the interference with other people's contractual relations is wrongful if not justified; (2) if such violation or interference be unjustifiable, the presence or absence of M. is immaterial to the cause of action.

Malicious Injuries to Property are classified in the English criminal law either according to the nature of the property or the manner of injury. They are for the most part dealt with in the Criminal Law Consolidated Act, 1861. Arson is treated as a distinct specific offence, though there is one scientific reason for so doing. Every kind of arson is a felony, and in all but one case (attempting to set fire to crops and stacks—seven years) the punishment may be up to four-

mount to criminal intent. M., when death (arson of ships and vessels). used in law in the non-technical Malicious injuries to houses by explosion so as to endanger life is a relony punishable by penal servitude up to life; but curiously enough the maximum punishment for malicious injury to vessels by explosion is only seven years, while a life sentence may be given for malicious injury by attering signals so as to endanger vessels. The Act further deals with specific malicious injuries: forcible demolition of buildings, machinery, mine bridges and ways: destruction of manufactures and machinery, or goods in process of manufacture; damaging mines by water; destruction of vessels wrecked or destruction of vesses whereas of the stranded; damaging sea and river banks, dams, and walls; destruction of bridges, viaducts, aqueducts, and turnpikes; putting or throwing any obstacle across any railway or interfering with railway signals; destruc tion of dams and sluices of fish-ponds so as to cause loss of fish; killing or maining cattle; injury to trees and plants and hopbinds; and damaging books, works of art, etc., in public museums. The punishments range from a minimum of five years up to life imprisonment, while lesser injuries may be disposed of summarily by magistrates. 'Malicious' is used technically, and means no more than 'unlawfully,' for it is not necessary to prove that the accused was actuated by malice against the owner of

the property.

It will long be remembered that in 1912 and 1913 the activities of the militant body of agitators for the female vote found expression in female vote found expression in the second control forms of various of the above-noted forms of M. I. to P., but though explosives have been used it is notoworthy that up to the time of writing (May 1913) no loss of life has yet been caused. In the spring of 1913 some priceless paintings belonging to the Manchester Corporation were cut about beyond redemption, while at the time of writing an old country mansion, valued at £15,000, was burnt down: and an attempted injury was that to St. Paul's Cathedral, where a clockwork bomb was discovered lying near the reredos. The fact that these injuries, or attempted injuries, are committed in pursuance of a political campaign is no defence to a prosecu-

tion in a criminal court.

Malicious Prosecution. To set in motion the machinery of the criminal law against a person without 'reasonable and probable cause 'for so doing, renders the prosecutor liable to an action for M. P. But not every person who gets an acquittal at the hands teen years' penal servitude, penal of a jury, or whose prosecution is servitude for life, and in two cases summarily dismissed by justices, will

necessarily succeed in a civil action of | indicate previous fracture of some M. P. If a crime has been committed and the circumstances were such that the prosecutor had reasonable cause for believing that the plaintiff (in the civil action) was probably the guilty person, he is justified in protecting his interests by prosecuting him. It is on the plaintiff, if the judge decides that there was an absence of reasonable and probable cause, to prove affirmatively, to the satisfaction of the jury, that the defendant (prosecutor) was actuated by malice or some indirect motive like personal spite or ill-will against him; but if the judge decides on the facts that there was such cause, then malicious motives are immaterial, and there is no case to go to the jury. As a rule a claim for damages for M. P. is joined with a claim for false imprisonment (q.v.), for there cannot be a prosecution without at least technical imprisonment. The false imprisonment, however, is more or less merged in the M. P. where joined with such a claim. See also VEXATIOUS INDICTMENTS.

Malignant Pustules, see ANTHRAX. Malignants, a name given by the Parliamentarians to the Royalists during the Great Rebellion in Eng-land. It occurs in the Great Remonstrance of 1641.

strance of 1641.

Malinao, a pueblo of Albay prov.,
Luzon, Philippine Is. Near it is the
extinct Malinao volcano. Pop. 12,437.

Malindi, a seaport of British E.
Africa, at the mouth of Sabaki R.
70, m. N.E. of Mombasa. Vasco da
Gama visited it in 1498 and raised a

pillar. Pop. 5000.

Malines, or Mechlin, a tn. of Belgium in the prov. of Antwerp, on the Dyle, 12 m. S.E. of Antwerp. It has a cathedral, and was formerly noted Woollen for its lace manufactories. goods and Gobelin tapestry are now made. There are several churches in M., some of which contain pictures by Rubens. Of these the finest is that of 'The Adoration of the Magi' in the Church of St. John. The town is well

built, and has broad streets. Pop. 59,372.
Malingering, a word of obscure derivation, but according to Cotgrave, comes from the Fr. malingre, sickly, formerly 'sore,' 'scabbie,' 'ouglie.' It denotes pretending or feigning illness for any purpose, but especially to evade military or naval duty. M. is also a common practice of mendicants to avoid labour, paupers to shirk allotted tasks, and criminals to prevent the infliction of punishment. As may be imagined, M. is much resorted to in countries where there is conscription. It takes various forms, and drake alike. It is widely disease, military doctors have found tributed over almost the whole pieces of metal inserted in the head to northern homisphere, and is the an-

part of the skull; an appearance of fever has been induced by swallowing tobacco juice, or by various stimu-lants, such as brandy or cantharides; lameness by tying ligatures round the leg, causing it to swell; internal remedies have been used to produce cardiac derangement, e.g. soldiers at Chatham a century ago in the old General Hospital used to take fifteen grains of hellebore, which produced great excitement, and maintained that condition by taking four grains daily. But there is hardly any limit to the kinds of disease that may not be more or less successfully feigned, so much so, according to Foderé, that it was brought to such a pitch of perfection in France as 'to render it as difficult to detect a feigned disease as to cure a real one. Maladies of the nature of inflammations, purulent expectoration, and fevers are, however, not easily feigned, nor any disease whose diagnostic symptoms are well settled, and which operate to produce a perceptible systematic change. It is otherwise with diseases symptomatically uncertain or variable and characterised by no peculiar outward appearance, like epilepsy and insanity. If great ingenuity has been exerted in feigning disease, an equal degree of it has often led to detection, e.g. feigned lumbago has been detected in a moment by holding the malingerer in an interesting conversation whilst an assistant, stealthily approaching from behind, pierces him with a needle, with the result that the patient, forgetting his lumbago, shoots bolt upright; and it is recorded that the celebrated Abbé Sicard unmasked a pretended deaf and dumb person named Victor Foy by proving that the malingerer wrote from sound, whereas the congenitally deaf and dumb write only as they see. It is hardly necessary to say that M. per se is no offence apart from the special case of soldiers and sailors unless the malingerer's assumed illness is for the purpose of obtaining money, and he actually attempt so to obtain it. Under the Prison Act 1877, a test involving pain, to detect M., may only be employed by the authority of an order from the visiting committee of justices or a prison commissioner.

Mallaig, a vil. of Inverness-shire, Scotland, on the coast at the entrance to Loch Nevis, 8 m. E. of the Point of It is a calling place for the coast steamers.

Mallard, properly the male wild duck, but commonly used of duck and drake alike. It is widely dis-

cestor of some of the domesticated was Indian correspondent of the varieties, with which it freely breeds Times. His first work to attract in captivity. From October till the notice was the Red Pamphlet, pubtime the eggs are hatched, the plumage of the male is very beautiful. The head and neck are rich glossygreen, with a white ring or collar, the front rich

greyishis brown. onths the

drake resembles her.

Mallarme, Stephane (1842-98), a French poet and theorist, born in Paris. He was professor of English at Tournon, Besançon, Avignon, and Paris successively. In 1876 he published his L'Après-midi d'un Faune, and in 1887 Poésies Complètes. His volume Vers et Prose, containing some and some essays of literary criticism. His poems as a whole contain some verses of extraordinary beauty and wrapped in mysticism, and are not very intelligible.

hammered or rolled out in a thin It forms with ductility the more general property of plasticity, but the most mallcable metals are not by any means the most ductile; lead, for instance, may be beaten into a very thin sheet, but cannot be drawn out into a fine wire. The property of M. varies with temperature, and the

rich plain where agricultural are carried on. The chief

are wheat and cattle. 120,000.

eucalyptus dumosa and oleosa, two dwarf species of the gum-tree, which are able to live under extremely adverse conditions, and form dense thickets over tracts of country, called M. scrub.

Mallein, a cultural preparation of the glanders' bacillus, which if injected verifies the presence or absence of glanders in horses and is prophylactic.

Malleson, George Bruce (1825-98), Minison, teorge price (1929-39), moves and poems. The cines are an Indian officer and author born at New Republic; Is Life Worth Living? Wimbledon, and educated at Winchester. He obtained a cadetship in the Bengal infantry, and in 1852 (Classes and Masses; Aristocracy and served in the second Burmese War His subsequent appointments in the civil line. For some tim

lished at Calcutta during the mutiny (1857). Among his other works are: The Decisive Battles of India: History of Afghanistan; History of the French in India; and The Founders of the Indian Empire. He also re-wrote the History of the Indian Muliny left uncompleted by Sir John Kaye,

Mallet (originally Malloch). David (1705-65), a poet and miscellaneous writer, educated at Crieff parish school and the University of Edinburgh, where he met Thomson. the following year appeared his ballad of William and Margarel, by which he is chiefly remembered, and which made him known to Pope, Young, and others. His Excursion, an imita-tion of Thomson, was published in of his most important works, ap-tion of Thomson, was published in peared in 1893. He had previously 1728. At the request of the Prince published in 1888 a notable transla- of Wales, whose secretary he had tion of the poems of Edgar Allen Poe become, he wrote with Thomson a translation of the poems of Edgar Allen Poe become, he wrote with Thomson a translation of the poems of Edgar Allen Poets and the poet masque, Alfred (1740), in which Rule Britannia first appeared, which, although he claimed the authorship, grace, but are, for the most part, is now generally attributed to Thomwrapped in mysticism, and are not very intelligible.

Malleability, that property of a Lord Bute, and was rewarded with a metal by virtue of which it can be become a very local supporter of the control of t above named, M. wrote some indifferent dramas, including Eurydice.

Muslapha, and Elvira.

Mallet, Paul Henri (1730-1807),
born at Geneva; became professor of
belles-lettres at Copenhagen. He was made a member of the academy of Upsala, and became also correspondent of the Académie des Inscriptions M. varies with temperature, and the introduction of foreign substances, but of the ordinary metals, lead by hammering, and gold by rolling can be reduced to the thinnest sheets.

Malleco, an inland prov. in Chile, cap. Angol. The centre consists of a Bishop Percy under the title of whose card the Edda. and the Edda

1770.

West, two adjoining parishes in Kent, England, in Mallee, an Australian name for the Medway div. E. Malling is 4 m. W. of Maidstone, and W. Malling 51 m. W.N.W. The latter has the remains of a Benedictine numery, founded in 1090. Pop. (1911) 2300.

Mallock, William Hurrell (b. 1849).

an English author, was educated privately and at Balliol College, Oxford. His works deal with political, philosophical, economic, and religious questions, and he has also written novels and poems. The chief are: The New Republic; Is Life Worth Living? The New Paul and Virginia; Property and Progress; Social Equality;

> is a Business Firm. rels are: A Romance

of the Nineleenth Century; The Old Wales and Caroline, daughter of the Order Changes; A Human Document; Duke of Brunswick, and accompanied The Heart of Life; The Individualist, her to England. His grandson publishand The Veil of the Temple.

Mallorca, the Spanish name for

Majorca (q.v.).

Mallow, a tn. in co. Cork, Ireland, on the Blackwater, 17 m. N.N.W. of Cork. Y and has th

ning is car

mills and salt works. Pop. about 4500.

Mallow, or Malva, a genus of hardy annuals and perennials. The musk M. (M. moschata), with rose or white

flowers, is grown in gardens. Malmaison, a château in dept. of Seine, France, 5 m. W. of Paris. Noted as having been the residence of the Empress Josephine after her divorce

from Napoleon.

Malmedy, a tn. in Rhenish Prussia, 1½ m. from the Belgian frontier, and 25 m. S. of Aix-la-Chapelle. Until the close of the 18th century, it was the seat of a Benedictine abbey. Chief industry, leather-making. Pop. about 5000.

Malmesbury: 1. A market tn. in Wiltshire, England, 191 m. N.N.W. of Bath, picturesquely situated on the Avon. The parish church was formerly the Saxon abbey where Athelstan was buried, and contains a beautiful Gothic market cross (time of Henry VII.). The manuf. of silk and pillow-lace is carried on. Pop. (1911) 2657. 2. A municipality of Cape of Good Hope, 35 m. N.N.E. of Cape Town. Has salt-pans and sulphur springs. Pop. 3800.

Malmesbury, James Harris, Earl of (1746-1820), was the only son of 65), a Swedish poet, born at Tyss-James Harris, the a

and other well-kno works. He was born

the autumn of 1767, he was, through the patronage of Lord Shelburne, appointed secretary of embassy at Madrid. The temper and firmness, as well as talent, with which Harris had managed his negotiation with regard to the Falkland Islands, gave so much satisfaction to his government that he was the following year appointed to the post of minister at the court of Berlin. He retained this In 1777 he mission for four years. was sent as ambassador to St. Petersburg, and having in the meantime received the Order of the Bath in 1780, he remained in Russia till his health compelled him to return home in 1784. In 1788 Mr. Pitt offered Sir services while here, Sir James was I. Malo-les-Bains, a seaside resort of raised to the peggara as In 1794 he was employed to negotiate the marriago between the Prince of Luzon, Philippines, 15 m. N.N.W. of

her to England. His grandson published his Diaries and Correspondence.

Malmesbury, William (c. 1095-1143. an Anglo-Norman chronicler, became a monk in the monastery at Malmesbury, and later librarian and pregives the high

land from the

He also wrote lorum, 1125 (revised 1135-40); De Antiquitate Glastoniensis Ecclesia; Historia Novella (a sequel to the Gesta Regum); an account of the church at Glastonbury; and a Life of St. Dunstan. M. took part in the council of Winchester against Stephen in 1141. See Stubbs's edition of Gesta Regum Anglorum, 1887-89.

Malmö, a fortified tn. of Sweden, on the Sound, cap, of prov. of Malmöhus, and one of the most fertile districts of the kingdom. It is an important railway terminus and has a citadel and port with three harbours. It has a good trade in grain and whisky, and manufs. gloves, tobacco, cotton, etc. There are also iron works and dockyards. The chief buildings are a town hall, hospital, and theatre, and several old churches. Pop. 88,158.

Malmsey, a sweet and luscious white wine, originally brought from Malvasia or Malvoisie in the Morea, and hence sometimes known as Malvoisie. Vines of this variety were planted in Teneriffe, Madeira, and the Canary Is., and M. wine used to be made from a grape grown on the rocky ground of Madeira.

ame professor of University.

Angelika cludes. (1840), a volume of elegies and two volumes appearing in 1845 and 1847. He was a severe critic of the Romantic school, and wrote some valuable books on artistic and literary history, best being a monograph on the

Franzén. Malo, a market tn. in Venezia, Italy, 10 m. N.W. of Vicenza. Pop.

6000. Maloarkhangelsk, a tn. of Russia, in the prov. of and 85 m. S.E. of Orel.

Pop. 8000.

a mountain pass in the Maloja, Alps, Switzerland, 9 m. S.W. of St. Moritz, at the head of the Inu Valley, Upper Engadine. Altitude 5943 ft., the lowest of the passes between Switzerland and Italy.

Manila. It is situated in a fertile to region, the chief crop being rice.

Malone, the cap. of Franklin co., New York, U.S.A., on the Salmon R., 57 m. W. of Rouse Point. It is situated in the midst of a rich farming country, hops being the chief crop of the district. It has an iron-foundry, paper and flour mills, and railway repair shops, and manufs, woollen goods, paper, and pulp. Pop. (1910) 6467.

Malone, Edmund (1741-1812), an author, was educated at Trinity College, Dublin, and called to the Irish bar in the late 'sixties. He came to London in 1777, and eight years later was elected to the Literary Club, with the most prominent members the most prominent memoers or which, Johnson, Burke, Reynolds, and Boswell, he was on intimate terms. He devoted himself to the study of Shakespeare. In 1778 he published an Attempt to ascertain the Order in which the Plays of Shakespeare were written, and from 1783 worked to his chitten of Shakespeare. worked at his edition of Shakespeare, which appeared in 1790. In 1800 Dryden's appeared his edition of

appeared his edition of Drynen's Works, with a biographical introduction. There is a biography by Sir James Prior, 1864.

Malonic Acid, CH₁(COOH), an organic acid formed by the oxidation of malic acid. It forms colourless crystals melting at 132°, and is readily soluble in water, alcohol, and ether. When heated above its melting point, it decomposes into acetima point, it decomposes into acetima. ing point, it decomposes into acetic acid and carbon dioxide.

Malope, or Mallow-wort, a genus of hardy annuals, with large flowers of white, rose, or purple colour, and grown for their ornamental effect in

grown for their orders. sunny beds and borders. Malory Sir Thomas (fl. 1470), Very translator of Morie d'Arthur. little is known of him. An endeavour has been made to identify him with a Sir Thomas Malory of Warwickshire, who fought successively on both sides in the Wars of the Roses, sat in parliament from 1444-45, and died in 1471. In his book he strove to make a continuous story of the Arthurian legends, and showed judgment alike in what he included and omitted. His work was finished in 1469 but was not published by Caxton until 1485; before the middle of the 17th century

eminent Italian anatomi Bologna. He held, periods of his life, the is diversified by a successor medicine in Bologn and dale, the land being Messina. In 1691 he was summoned intersected by parallel valleys, run-

Rome and appointed chief physician and chamberlain to Pope Innocent XII. Chiefly known for his discoveries in the anatomy of the skin, kidney, and spleen, the Mal-pighian bodies or corpuscles of the kidney and the spleen still retain the name of their discoverer. He was also the first to examine the circulation with the microscope, and thus discovered the blood corpuscles,

Malpighia, a genus of small ever-green trees and shrubs with pink or white flowers, followed by fleshy fruit which is edible. M. urens has stinging properties, but is sometimes grown in the stovehouse. M. glabra, the furnishes

Barbadoes cherry, fu popular W. Indian fruit.

Malpighiacem, a natural order of trees and shrubs, occurring mostly in the southern hemisphere, with glandular five-parted calyx, five petals spurred at the base, and fruit glandular a drupe, woody nut or samara.

Maiplaquet, a hamlet in dept. of Nord, France, noted for the victory of Marlborough and Prince Eugene over the French in 1709. It is 21 m. E. by

S. of Valenciennes.

Malstatt-Burbach, a tn. in Rhenish Prussia, on the Saar, 38 m. S.S.E. of Trèves, now incorporated with Saarbrücken. Has large iron works, and is the centre of the coal district. Manufs. cement, rails, and machines.
Malström, see MAELSTROM.

Malström, Carl Gustav (b. 1822), a Swedish historian. In 1863 he obtained a professorship at Lund, and in 1877 became professor at Upsala, and a member of the Academy. He was keeper of the Record Office during 1882-87. His works include was keeper of the Record Office and ing 1882-87. His works include Sveriges Politiska Historia, 1719-72, and till wing till Ri

1 possessio m. long by about 9 m. broad, with an area of about 95 sq. m.; it is of carbonaceous limestone, of the tertiary aqueous formation, and occupies a very central position in the Mediterranean Sea. being distant some 54 m. from the Sicilian coast and about 200 m. from Cape Bon on the African coast. tween it and Gozo (q.v.) lies the small island of Comino, and off this last the still smaller islet, Cominotto, rears its rocky crest, while elsewhere round the shores of M. and Gozo a few rocks before the middle of the first control of the middle of the first control of the seven editions had appeared.

Malpas, a market tn. and par. in stud the sea, sustaining each a few Cheshire, England, 14 m. S.S.E. of Chester. Pop. (1911) 4643.

Malpighi, Marcello (""" the shores of M. and Gozo a few rocks that the shores of M. and Gozo a few rocks of the shores of M. and Gozo a few rocks of the shores of M. and Gozo a few rocks of the shores of M. and Gozo a few rocks of the shores of M. and Gozo a few rocks of M. and Gozo a few r

low, its highest point not 90 ft. above the sea-level.

ing from S.W. to N.E., the most considerable of which is the vale called M. shows no signs of volcanic formation, but the action of the sea among its cliffs has hollowed out grottoes and caverns in almost every direction, and some of considerable extent. The inhabitants are good agriculturists. agriculturists. Mules and asses are remarkable in M. for their strength and beauty, but the horned cattle are small. Maltese goats are very fine animals. The bees produce an aromatic honey, excelled in no other locality. The vegetable products comprise all that flourish in Italy, as Mules and asses are aloes, oranges, and olives, with many plants of a more tropical growth. plants of a more tropical growul-Citta Vecchia, or Notabile, the former capital of the island, is a handsome old town lying inland; it contains the ancient palace of the Grand Masters of the Order of St. John, the cathe-dral, a college, and is still the seat of the bishopric. Its rival and successor is Valetta (q.v.). It is thought by some that M. was the Hyperion or Oppyia of Homer, but there is little doubt that the Phænicians colonised the island at a very early date, probably in the 16th century B.C. Before they were dispossessed by the Greeks in 736 B.C., they had developed considerable commerce. The Greeks siderable commerce. called the island Melitas, and were driven out by the Carthaginians about 500 B.C. As early as the first Punio War it was plundered by the Romans, but did not come finally into their possession until 242 B.C. During the 5th century it fell successively under the Vandals and Goths, whose barbarism nearly annihilated its com-merce. In 533 Belisarius recovered M.

almost vanished amid constant local feuds. In 870 the Arabs destroyed the Greek power in M., and fortified the harbour as a station for their corsairs. Count Roger, of Sicily, drove out the Arabs in 1090, and established a popular accession. sieny, throw out the Arabs in 1990, and established a popular council for the government of the island, composed of nobles, clergy, and elected representatives of the people. This council, in a more or less modified form, subsisted for 700 years. Under a marriage contract, M. passed to the German emperor, who constituted it a marquisate, but it had ceased to be a place of trade and was merely a garrison of more expense than value. Charles of Anjou, after overrunning Sicily, made himself master of M., which clung to the French even after they had been expelled from Sicily, but after a time the houses of Aragon and Castile successively held the presence of the micrococcus melitensis

island. Subsequently, the Emperor Charles V. took possession of M., and, island. in 1530, granted it, with Gozo and Tripoli, in perpetual sovereignty to the Knights of the Order of St. John of Jerusalem, from whom the Turks had recently captured their great stronghold at Rhodes. The Grand Master of the Knights defended the island against the Turks in 1565, and founded Valetta. In 1571, they, with the Maltese, behaved most courage-ously at the battle of Lepanto, where the Turks lost 30,000 men. Though waging perpetual war with the Moslem, the knights continued in possession of M. until 1798, when overcome by Bonaparte's treachery and disorganised by internal quarrels, the order surrendered their noble for-tresses to the French. M. became a part of the British empire in 1814. The commandant of the garrison is governor, and is aided in the civil government by an executive council. The revenue amounted, in 1910-11, to £441,444; but was exceeded by the expenditure, £467,373. Imports expenditure, £467,373. Imports (1910-11) amounted to £2,356,043 and experts to £863,429. Pop. 228,442.

Malta, Knights of, see HOSPITALLERS. MaltaFever, or Mediterranean Fever, a specific febrile affection prevalent at one time in Malta and Gibraltar and along the Mediterranean coasts The symptoms are progenerally. longed and irregular high tempera-ture, rheumatic and nervous pains. frequent constipation, and extreme debility. The temperature may rise to 106°, and even to 110° in fatal cases. The course of the disease lasts for a few months, but it may be prolonged to a few years. The cause of the fever has been discovered by Sir David Bruce to be the presence of a specific

·····ococcus period is from

occurrence of rock tever in Gibrailar was traced to infection from the milk of goats im-

ported from found to be

hibition of goats the disease disappeared from Gibraltar. Later the fever has been stamped out in Malta by the same measures, and still more recently at Port Said. The fever has been found to be more widely distributed than was formely supposed. It is common in N. Africa, and is even found in S. Africa, while a group of cases was recently reported from S.W. Texas. Sir David Bruce described at the annual meeting of the Research Defence Society in 1910 the occurrence of Melter forces in Apple on the of Malta fever in Ankole, on the eastern shore of Lake Albert Edward. As in all other cases reported, the

was shown to be the cause of the school of Edward VI.'s time. disease, and infection was traced to the goats of the district.

Malt and Malting, see BREWING. Malte-Brun, Conrad, or Malte Conrad Bruun (1755-1826), a Danish-French geographer and publicist, banished ing the molecular formula $C_{12}H_{22}O_{11}$, from Denmark (c. 1796) for his violent that is, having the same percentage

political par principles of With Mente laborated in ... (1803-7 graphical So

Annales des Annales des voyages . . . () which he edited with Eyriès. Prices de la Géographie universelle prepared from malt. As the grains (1810) was completed by Huot (1829). of barley germinate, the enzyme dias-(1810) was completed by Huot (1829). His poems also were much admired. See Bory de Saint-Vincent, Notice biographique, 1827: Quérard. France Littéraire.

Malte-Brun, Victor Adolphe (1816-89), a French geographer, son of Conrad. He was professor of history at Pamiers (1838), and at various colleges. In 1847 he took up geographical studies, and became general graphical seudies, and became general secretary of the Société Géographique in Paris. He published a new edition of his father's Géographie (1852-55), wrote La France Illustrée (1855-57), and was chief editor of Nouvelles

Annales des Voyages.

acter having been preserved for over two thousand years. The coat reaches nearly to the ground, and is is doubled into the coat on the back.

Thomas Robert Malthus, (1766-Mathus, a political economist, was a pupil of Richard Graves and Gilbert Wakefield, and afterwards went to Jesus College, Cambridge, where he distinguished himself in classics and mathematics. He entered the Church and in 1798 was curate at Albury in Surrey. He had already begun to

> Principles h a view to their (1820).There

is a biography by James Bonar, 1835.
Malton, a market tn. in the North
Riding of Yorkshire, England, on the
Derwent, 174 m. N.E. of York. Burnt in Stephen's reign, it was rebuilt as New Malton. There are remains of a 12th century priory and of a grammar saline, alkaline,

and whinstone are quarried near Agricultural implements are manufactured. There are corn mills, breweries, and foundries. Pop. (1911) 4822.

Maltose, a di-saccharose sugar, hav-

ugar and milkin the form of cule of water of roduced by the h: the action is presence of an

(1808), enzyme diastase, and is an important es. His item in the process by which beer is tase is formed, and when germination is stopped by heat and the malt mixed with water at about 60° C., fermentation sets in which converts the starch into dextrin and M. The enzyme M. then converts the M. into glucose, which finally is converted alcohol. See FERMENTATION.

Malung, a vil. of Kopparberg län Sweden, (province), 65 m. from Falun. Its millstone quarries are im-

portant. Pop. 7035. Malus, Etienne Louis (1775-1812).

Maltese Dog, often, though wrongly, decided him to enlist as a common called Maltese terrier, the most soldier. So distinguished himself at ancient lap-dog, its type and char- Dunkirk in bridge construction that Lepère sent him to the Ecole Polytechnique (1793). Captain (1796), with the Egyptian expedition (1797). reaches hearly to the ground, and is straight and silky and parted from Sub-director of Strasbourg fortifica-head to tail; it is pure snowy white. tions (1806-8). Wrote his Traité The eyes are dark, the nose black, d'Optique Analytique (1807). Made the drop ears long, the back and legs brilliant discoveries in the polarisa-short, and the feet small. The short tail tion of light reflected from water or glass.

Malvaceæ, a large natural order of herbs, shrubs, and trees most numerous in the tropics. They are all free from unwholesome qualities, and contain a quantity of mucilage, which is extracted by boiling from certain species and is used medicinally. The most important genus of the order is Gossypium, to which belong the cotton-producing plants.

Malvastrum, a genus of perennials (order Malvaceæ), with spikes of scarlet, salmon-pink, golden, or purple flowers. The dwarf species are sometimes grown in sunny rockeries, but need winter protection.

Malvern, or Great Malvern, a health resort and inland watering-place of Worcestershire, England, near the Severn, on the slopes of the Malvern Hills, 8 m. from Worcester, compris-ing the villages of Malvern Link, Malvern Wells, and Little Malvern. The climate is bracing, and its chalybeate and

springs are noted. The 11th-century springs are noted. The 11th-tentury Benedictine priory has been restored as a parish church. Malvern Col-lege (an important public school) is here. Pop. (urban district) (1911) 16,514.

Malvern: 1. A suburb of Melbourne (5 m. S.E.), Victoria, Australia. Pop. 10,000. 2. A suburb of Adelaide,

S. Australia.

Malvern Hills, a hill range on the borders of Worcestershire and Here-fordshire, England. They extend for 9 to 10 m. with abrupt heights, such as Worcestershire Beacon (1395 ft., highest point), and Herefordshire Beacon (1300 ft.), an ancient British

fortress. ountry '), bounded

'. by the Aravalli range, N.E. by the valley of the Ganges, and E. by Bandelkhand. Among its chief feudatory states are Indore, Bhopal, Dhar, Jaora, Rajgarh, and Nimach. The chief city, Mandu, is in ruins. It is noted for a control of the chief of the chief noted for bay). T in area. Central

Malwan, a seaport, containing Rajkot Fort in Ratnagiri dist., Bombay, British India, 50 m. from New Goa. It was once a stronghold

of the Maratha pirates. Salt and iron ore are found near by. Pop. 20,000.

Mamaroneck, a tn. of Westchester co., New York, U.S.A., on Long Island Sound, 20 m. N.N.E. of New York, U.S.A., when the work of the control York. It includes Larchmont village and part of Mamaroneck village. Pop. (1910) 5699.

Mambajao, a tn. in the dist. of Misamis, Philippines, on the N.E. of Camiguin Is., off Mindanao.

18,000. Mambusao, a pueblo (tn.) of Capiz prov., Panay Is., Philippines, on the R. Malinannang, 16 m. from Capiz.

Pop. 10,000.

graphy .

Mamelukes (Arabic memalik, mametuses (Arabic memalik, a slave), a former class of slaves in Egypt, who became and long remained the dominant people of that country. Their dominion continued in Egypt for 263 years, and during that time they made many important conquests, and in 1291 drove the Franks entirely out of the East. They had their origin in the importation had their origin in the importation into Egypt of a large number of Turkish slaves from the Caucasus and neighbouring regions by the sultan of Egypt in the middle of the 13th century. They soon displayed insubordination, and finally, in 1254, appointed one of their own number. appointed one of their own number sultan of Egypt. From this time to the Ottoman conquest in 1517, Egypt | Ornithorhyneus (q.v.), native of Aus-

and Syria were ruled exclusively by the Mameluke dynasty. In 1811, by a stratagem, a general massacre of the M. was ordered by the Pasha of Egypt, Mehemet Ali. The few sur-vivors managed to escape to New Dongola, but were practically exterminated in 1820. They were famous for their courage and skill in horsemanship, and their military organisation was far in advance of their time. They were also munificent patrons of art and literature. See W. Muir, The Mameluke or Slave Dynasty, 1896. Mamers (ancient Mamercia), a tn.

of Sarthe dept., France, 14 m. E.S.E. of Alençon. It has two old churches dating from the 12th and 13th centuries respectively. Manufs. include woollen and linen fabrics, and hosiery.

Pop. 5900. Mamiani, Terenzio della Rovere, Count (c. 1799-1885), an Italian statesman and writer, supported the revolutionary outbreaks at Bologna (1831) on the accession of Pope Gregory XVI. Exiled for a time, he returned to Italy (1846), founded, with Globerti, the Society for the Advancement of Italian Unity at Turin and became professor of philo-Advancement of Indian Only as Turin, and became professor of philosophy there (c. 1855-60). In 1849 he established the Academia di Filosofia Italica at Genoa. The was Minister of Education under Cavour (1860), minister to Athens (1863), and to Bern Switzerland (1863), This to Bern, Switzerland (18:65), find to Bern, Switzerland (18:65). His works include: Kant e Prontologia, 1879; Religione dell' avel nire, 1880; Di un nuovo diritto Europeo, 1843, 1857. See his Prose e Poesie Seelle (ed. by Mestica), 1886. Geneult Gastrari Victoria pari, Vita, 18 ritratti, 1893

and Casini (1896). and Casmi (1896).

Mamilius, or Mamilia Gens, a name of a distinguished plebedian family of Rome, who came orliginally from Tusculum in ancient [fally. They claimed descent from the daughter of the daughter of the control of Telegonus, reputed for inder of Tusretigonis, reputed to inder of Itas-culum. The gens compt, ised the three families Limetanus, Turrinus, and Vitulus. Octavius Mal milius led the Latins against Rome affer Tarquin's expulsion, and was kill led at Lake

Regillus (c. 496 B.C.).

Mammals, or Mammellia, a classification invented by Linnous for those vertebrates which suckle their young. Until 1884, it was supposed that they were also consistent in being viviparous, but it was then demon-strated that low forms of M, still exist which lay eggs. These, comprising three species of a single order Monotremata, have been placed in a sub-class Prototheria or primitive animals. The best known of these in-teresting links with the reptiles is the

tralia and Tasmania. The others are legs. All M. bear some hair at some the spiny ant eaters (Echidna), also natives of the same continent. The period of their existence, even if only in the foetal stage, as in the Cetacea, where a layer of blubber under the porary pocket for her young, which disappears when they are able to look after themselves, and in this and Armadilloes are characterised by respect exhibits some relationship the absence of teeth in the front of to the marsupials which comprise a the jaw, many are arborreal, and are hurrowing animals. The second of the sub-classes of M., Metatheria. This sub-class is characterised by the possession of the marsupium, a permanent pocket in which the young are placed as soon as born. In these the period of gestation is short, and the young, helpless, are but little developed when born. They attach themselves to a teat and the milk is forced into their throats by muscular action on the mother's part. long time, marsupials were believed not to form a placenta, but the occurrence of this complex structure has been discovered in them in a small state. Except for the opossum of N. America and a few S. American species, the Metatheria are now confined to Australasia, although at nned to Australasia, although at one time their distribution was very extensive, indeed many of the higher M. are believed to be descended from them. They vary widely in their types and habits; some are herbivorous, some rodent, and some carnivorous. The third subclass of M is the Euthoria In all the class of M. is the Eutheria. In all the members of this sub-class the reproductive organs are highly developed, the period of gestation is relatively long, and the young are born in an advanced state of development. This sub-class has been variously classified, but the general modern arrangement tata, (2) Sirenia, (3)

(4) Cetacea, (5) Rodentia, le feeders, nivora, (7) Insectivora, (8 trea, (9) Primates. In Edentata and being converted into flippers for Cetacea, the teeth tend to be supterestrial life, or pinniped, the limbs pressed, but in the other orders they being converted into flippers for some invertent features and of great laquatic life. The fissipeds are are important features and of great assistance in classification. Generally speaking, M. are terrestrial in habit, but the Sirenia, Cetacca, and sea Carnivora are important exceptions. The fact that they are air breathers,

having no gills, or their equivalent, which would enable them to stay under water for more than a limited period, proves that they are only land animals which have adapted themselves for an aquatic life. The The only M. with true powers of flight are the Chiroptera or bats. Other socalled flying animals have only a broad fold of skin on each side of the

the jaw, many are arboreal, and some are burrowing animals. The Sirenia includes only two genera of living animals, a third, Steller's Rhytina, became extinct early in the 19th century. To this order belong the Manatees and Dugongs, char-acterised by a long cylindrical body, flipper-like fore limbs and by the absence of hind limbs. There are no ears, and the eyes are very small. They feed entirely on aquatic vegeta-They feed entirely on aquatic vegeta-tion and occur both on the coast of Africa and America. The Ungulata includes all the hoofed M., and forms a large order, comprising such diverse forms as the horse, elephant, and the cow. The toes vary from one to five in number, and never bear claws, but are usually provided with hoofs. The Rodentia are the gnawing M., and include a large number of some of the smallest forms, such as mice and rats, hares, rabbits, and many S. American animals. Their incisor teeth are large and sharp, and consist usually of a pair in both jaws. They are kept sharp by the back surface, which has no enamel coat, wearing away faster than the front. are mostly herbivorous, and some are practically omnivorous, and are serious enemies of man. The Carnivora includes many of the most magnificent M. Though mainly flesh is in nine orders, as follows: (1) Eden- eating, the members of this order are

terrestrial ine, or pinniped, the imios being converted into dippers for aquatic life. The fissipeds are divided into cat, dor, and bear sections. The Insectivora, or insect eaters, are placed high in the classification of M. on account of their relationship to lemurs, but their brain archibits a rather low correspection exhibits a rather low organisation, and they probably had a common origin with marsupials. The mole and the hedgehog are familiar examples of this order, which is unrepresented in S. America and Australasia. The Chiroptera or bats are specialised differing from them Insectivora, differing from essentially in powers of flight. are widely distributed over the surbrody which sustains them in the air face of the globe, but abound chiefly for a limited time. The bat's wings are composed of a thin flexible habit, and though the brain is not leathery membrane stretched belathery mem or highest M., are divided into two in Edmonson co., Kentucky, U.S.A., sub-orders: the Lemuroidea, or between Nashville and Louisville,

lemurs, and the Anthropoidea, which include all monkeys, apes, and man. Mammary Gland, the organ which secretes the milk with which mammals feed their young. The female breast in the human extends between the second and sixth ribs. It is composed second and sixth ribs. It is composed of several lobules, each of which has a lactiferous duct leading to the nipple. The nipple is surrounded by a circular patch called the areola, which is ordinarily pigmented. The pigmentation deepens to dark brown during pregnancy and lactation. The size of the M. G. increases from the age of puberty and reaches its greatest size towards the end of pregnancy and during lactation. In later life the breasts are apt to become pendulous.

Mammea, or Americana, a large tropical tree (order Guttiferre). Its showy flowers are distilled by the inhabitants of tropical America to produce Eau de Creole, a strong per-fumed liqueur, and the huge, doublerind, bitter fruits known as Mammey

are eaten.

Mammillaria, a large genus of succulents (order Cactacew), with fleshy, leafless stems, rarely higher than 12 in. and often only a few inches inches, and round and flattened, or cylindrical, or branching from the Arranged in various designs over the surface are tubercles or nipples, which bear spines in tufts, rosettes, or stars. The flowers spring from the axils of the upper tubercles, and though small and fugitive are showy and are followed by finely tinted berry-like fruits. A dry, warm, greenhouse suits most Ms.

Mammola, a com. and tn. of Reggio, Italy, 7 m. from Gerace. Pop. 8500.

Mammoth, the best known of the extinct elephants. Since 1799 many perfectly preserved specimens have been found, principally in the N. of Siberia. It was of great size, and differed mainly from the living members of the order Proboscidea by the thick, hairy covering, and the tusks, some 8 ft. long, curved up-wards, inwards towards the head, and out sideways in somewhat spiral fashion. The remains of the M. have been found in enormous number, not Pop. about 575,000. only in the neighbourhood Arctic Sea, but throughout

and N. America as far S. as t of Mexico. Examination of m mains shows that the princip

between Nashville and Louisville, discovered in 1809. It is 6 m. from Cave City, and connected by steamers with Green R., Indiana. The diameter of the whole cavern's area is 9 to 10 m., the total length (including all passages and avenues) is estimated at 150 m. In some of the grottoes there are branches of the subterranean R. Echo. Mammoth Dome is 540 ft. long, by 200 ft. wide, Dome is 540 ft. long, by 200 ft. wide, by 120 ft. high. Blind fishes, crickets, crustacea, and insects have been found in the caves. Bats abound in the outer galleries. The temperature ranges from 52° to 59° F. See Ward, Plan and Description of the Cave in Kentucky, 1816; Packard and Putnam, The Mammoth Cave and its Inhabitants, 1879; Hovey, Celebrated American Caverns, 1882. brated American Caverns, 1882.

Mammoth Hot Springs, a group of thermal springs in the N. of Yellow-stone National Park, Wyoming, U.S.A. about 1000 acres in area. They are remarkable for their snowwhite calcareous deposits. waters are turquoise-blue in colour, the temperatures varying from 60° to 175° F. They are unrivalled since the terraced springs of Rotomahana (New

Zealand) were destroyed.

Mamon, Upper and Lower, two villages of Voronetz gov., Russia, on the Don. There is trade in corn.

Pop. 11,000.

Mamore, a riv. of S. America, forming part of the boundary between Bolivia and Brazil, sometimes regarded as the main headwater of the Madeira. It is formed by streams rising in the Cochabamba Mts., and is called Rio Grande in part of its course.

Mamun, or Al-Mamun (786-833), the surname of Abdallah, second son of Harun al-Rashid, and seventh Abbaside calif of Bagdad (813-33), defeating and succeeding his brother Amin. He was a patron of literature. See Weil, Gesch. der Chalifen, ii., 7: Aboolfeda, Annales Moslemici.

Mamurat-el-Aziz, Mamuret-ül-Aziz, or Kharput, a vilayet of Asiatic Turkey, mainly included in Kurdistan 60 m. from Diarbekir. The College of Capital Mezerch Armenia is here.

ıg, is e · highest order is ups, the apes.

was young shoots of the fir and pine, monkeys, and baboons, and the and it was probably some over Prosimia, or lemurs. As far as mere whelming cataclysm which ulti-mately exterminated them rather be considered as related to monkeys than inability to find enough food.

Mammoth Cave, a great cavern formed by a series of vast chambers five toes, armed with flat nails to-

wards the extremities, has a similar able part in determining the intellecarray of teeth, which are normally preceded by milk-teeth, has a simple stomach, and lives mainly on a vegetarian diet. The young are brought forth usually one at a time, and are quite helpless at the time of birth. Towards the latter half of the 19th century a strenuous controversy arose as to M.'s place in the animal world, but it is now generally con-ceded that, as far as physical characteristics are concerned, there is no reason to suppose that M. is other than a form of development with characteristics sufficiently in common with monkeys, apes, etc., to justify his being placed in the same order of mammals. M. does not differ from those animals in possessing struc-tures fundamentally different, but only in possessing them either in a more rudimentary form or in a more developed form. Some of the ways in which M.'s physical organism differs from that of the rest of the primates, may now be pointed out. The lower limbs are long, and the upper limbs short in M. as compared with the apes. He maintains an erect posture, stands flat upon the soles of his feet, instead

set so as to normally look ahead when the individual is in an erect posture. His skull shows a marked diversity of

are regular; although the different forms are distinct on examination, they make an even series without any break and without any individual teeth projecting markedly be-yond the rest. The body is for the most part devoid of hair, but in the beard and head, hair may attain a length which is peculiar to the human genus. The thumb is long and opposes itself easily to any of the other fingers; on the other hand, the big toe is not opposable at all, and the foot has little power of prehensile movement. Probably the most important difference between M. and other members of the same or any order, is the higher physical development of the State Not only is the size greater in proportion to the rest of the body, but it presents a more elaborate series of folds, or convolutions. When it is physical development of the brain. understood that the physical processes corresponding to the highest mental activities are located in the cortex, or rind of the brain, it is seen that the extent and number of the convolutions, by increasing the area of the cortex, must play a consider-

tual effectiveness of the animal.

It appears, therefore, that the differences between M. and his nearest kin in the animal world are differences of degree, rather than of kind. It is difficult to point to any one characteristic which can be looked upon as an adequate cause for M.'s superiority over other animals. The truth probably is that many causes have contributed to that superiority. Among them, in addition to mere size of brain, may be quoted the adaptability of his hands to many uses, allowing a degree of manipulation impossible to other animals, the more exquisite óf differentiation sense-perception than is apparent in most animals, the voice capable of many various sounds and so lending itself to the formation of a language. When differences other than physical are considered, the superiority of M. is so great as to incline some to the opinion that M. is a separate creation on the ground of his mentality alone. However great this superiority is, it does not appear that M. possesses any faculty or fairly fundamental mental process which is not possessed in some degree of on the outer edges as most apes do. by some lower animal or other. the powers of abstraction,

easoning are demonstrably by certain animals, if only nentary form. Present day

opinion strongly inclines to the theory that the processes of evolution as ordinarily understood are quite sufficient to account for the marked superiority of a single species. This does not necessarily exclude any idea of acts of grace from a higher power or of 'spiritual influxes,' but it maintains that the lower animals are also susceptible to such acts of grace,

though perhaps in a less degree.

Origin of man.—The ultimate origin of M. is a problem bound up ultimate with that of the origin of organic life as a whole, as the conception of a sudden creation of separate and permanent species has long been abandoned. It has, however, been the aim of many anthropologists to arrive at a form of animal which may reasonably be supposed to represent the common ancestor of M. and his nearest relatives in the animal world. At various times human or semihuman remains have been discovered which bear an ape-like appearance. Among them may be mentioned the Neanderthal skull found near Düsseldorf and the skull from Spy in Bel-gium. Both are preserved in the Oxford University Museum, and both exhibit an ape-like conformation of the forehead. Another skull found in 1891 in Java in a Pliocene formation, bore certain resemblances to a simian

skull, and is considered by some to represent an animal between M. and about 16 m. from Burrow Head, Scotage. The whole question of the antiquity of M. is a matter of conjecture, he may have been in existence in Pliocene times, but in Europe, at any rate, he did not make his appearance until the Quaternary period.

until the Quaternary period.

Future of man.—It is sometimes maintained that M. has now arrived at a fairly permanent physical form, but it is difficult to reconcile the idea

take a greater and greater part in the establishment of his own environment, and may in a sense determine his own evolution. It may be said that there are two tendencies perceptible as to the manner in which a different type may be reached: one is the tendency to differentiation of individuals and races, the other is the tendency to the movement of mankind as a whole. The first tendency can be seen in such conceptions as a 'chosen race,' the authority of conscious superiority as in the 'superman,' with its corollary of subject individuals or subject races, and the like. On the other hand, we have the conception of solidarity implied in the idea of a 'common humanity' with the widest possible notion of social obligations. Still more speculative than the probable results of human endeavour for M.'s uplifting are the problems of M.'s possible enemies and conquerors in the evolutionary struggle. Some writers see in the organisation and adaptability of some sections of the insect world the rudiments of a development which will surpass and conquer human development. Others see in the great diversity of animal forms below us which have no consciousness of our existence, the possibility of a corresponding diversity of animal forms above us with which we have not yet come into contact or, consequently, conflict. Of more practical import are the efforts of bodies of men like the modern 'eugenists,' who seek to improve the race in directions which will meet with the common approval. Their efforts are as yet restricted to the prevention of the propagation of tendencies which we know to be harmful to the physical well-being of mankind. Further than that, our ignorance of our common destiny makes it impossible to advance. See Huxley, Man's Place in Nature; Darwin, Descent of Man; A. H. Keano, Man, Past and Present.

Man, Isie of (ancient Monapia, or Menaria; Manx Vannin, or Mannin, middle), a small island in the Irish Sea, almost equidistant from Eng-

it belongs to Great Britain. A cable (32 m. long) runs between Pt. of Ayre and St. Bees. A tiny islet known as the Calf of Man is in the S.W. mountain range stretches from N.E. to S.W. through the island, culminating near the centre in Snaefell (c. 2030 ft.). The climate is very equable, W. and S.W. winds predominating, while fuchsias, myrtles, and other exotics flourish all the year round. Lead, copper, iron, and zinc are found, but no coal. The Laxey lead-mines yield quantities of silver. The island's small breed of horses are noted, and its tailless cats. There are herring, mackerel, and other fisheries. Granite, marble, limestone, and greenstone are quarried. The island is a favourite holiday resort, and has steamboat services to Liverpool, Barrow, Silloth, and other ports. The chief towns are Douglas (capital), Castletown, Peel, Ramsay. The inhabitants are Manx (Menaviæ) of Celtic race. the 6th to the 9th century they had Welsh kings. These were followed by a Scandinavian dynasty, who in turn yielded their rights to Alexander III. of Scotland (1266). In 1406 the island was granted to the Stanleys (Earls of Derby), and was purchased by the British Government after long negotiations (1765-1829) from the Dukes of Athol, who held it from 1735. The island forms the bishopric of Sodor and Man. It has its own lieutenantand Man. It has its own lieutenant-governor, council, and House of Keys Pop. (1911) 52,034. See History of Man by Cumming, 1848, Train, 1845, Moore, 1900; Walpole, The Land of Home Rule, 1893; Manx Society's Publications (32 vols., from 1858); Herbert and Maxwell, The Isle of Man, 1909.

Mana, 1909.

Manaar, or Manar, Gulf of, an arm of the Indian Ocean between Ceylon and S. India, separated from Palk Strait by the islands of Rameswaram and Manaar, and a reef, Adam's Bridge. It is about 150 m. wide at the entrance, and has pearl fisheries. Manaar Is, is situated W. of N. Ceylon, at the gulf's head, and is 18 m. long by 2½ m. broad. The town's pop, is about 3000.

Manabi, a maritime prov. of Ecuador, S. America, between Esmeraldas and Guayas. Sugar and cacao are produced. Puerto Viejo (c. 80 m. from Guayaquil) is its capital, on a small river flowing into the Pacific. Pop. 65.000.

Manacle Rocks or Point, a dangerous reef off the S.E. coast of Cornwall, England, by St. Keverne, 7 m. S. of Falmouth.

Manacor, a tn. of Majorca, Balcaric

separated by volcanic fills from the Pacific. Lake M. or Leon has the volcano, Momotombo, on its N.W. shore. Several steamers ply on the lake. 2. A dept. of S.W. Nicaragua, bounded S.W. by the Pacific, N. by Lake M. Much coffee is exported. 3. Cap, of above and of Nicaragua (since

1851), connected by rail with Granada, S. of Lake M. Pop. 35,000.
Manakins (Pipridæ), a family of Mesomyodi or songless birds of small size, occurring in forest districts in the northern part of S. America. Like the closely allied tyrants, M. feed largely on insects, but also eat

fruit and seeds.

Manameh, a tn. and the commercial cap. of the Bahrein Is., Persian Gulf. Pop. 25,000.

Manaos, the cap. of the state of Amazonas, Brazil, situated on the Rio Negro about 10 m. from its junction with the Amazon R. Its chief exports are india-rubber, Brazil nuts,

and fish. Pop. 50,000.

Manapla, a tn. in the prov. of Negros Occidental, Is, of Negros, Philippine Is., situated in the extreme N. of the province. Pop. 10,000.

Manar, see Manaar.

Manasarowar, or Tso-Mapham, a lake of Tibet, situated at the base of lake of Tibet, situated at the base of Mt. Kailas, about 15,000 ft. above the level of the sea. In Hindu legends it is a sacred lake, and is an object of pilgrimage both for Tartars and Hindus. Area 150 sq. m. Manassas, a tn. and the cap. of Prince William co., Virginia, U.S.A., 30 m. W.S.W. of Washington, D.C.

It was the scene of the two battles known as the battles of the Bull Run, fought in 1861 and 1862 during the Civil War.

Manasseh, the eldest son of Joseph, born in Egypt. His descendants formed a tribe who received lands on both sides of the Jordan. M. was deprived of the precedence due to him by reason of priority of birth by Ephraim, on whose head their grandfather, Jacob, placed his right hand in

blessing instead of his left, M. thus taking the second place.

Manassel (Ben Joseph Ben Israel) (1604-59), a learned Jewish writer, born in Lisbon; at eighteen he was rabbi at Assetzador Darwind of rabbi at Amsterdam. Deprived of

Is., Spain, 30 m. E. of Palma, 10 m., Christians referred to him. His from the port of Arta, where there are noted stalactite caverns. It is a poishop's see, and contains an ancient palace. Wineis produced. Pop. 12,500.

Managua: 1. A lake of Nicaragua, icentral America, drained by the Tipitapa, S.E. into Lake Nicaragua, separated by volcanic hills from the Pacific. Lake M. or Leon has the though of ungainly appearance is

though of ungainly appearance, is probably the origin of the Mermaid superstition. It ranges along the W. coast of Africa and the E. coast of tropical America, and ascends the rivers, where it browses on the aquatio vegetation. Ms. are slow and in-offensive, but for their valuable oil and their skin and flesh they are and their skin and fiesh they are hunted, and their numbers are rapidly diminishing. They are from 8 to 12 ft. long; their skin is like an elephant's, and the long body ends in a tail like a beaver's. The forepaw or flipper has small flat nails, and its resemblance to the human hand is supposed to have given the M. its name. The upper lip is eleft, and the parts diverge and clear the food in parts diverge and clasp the food in eating.

Mánbhúm, a dist. of W. Bengal, British India, Bardwán div., forming the E. of Chota Nagpur. Its capital is Purulia, and it contains the Jharia coal-field (N.). Rice, cereals, and

coal-field (N.). Rice, cereals, and tobacco are produced. Area about 4147 sq. m. Pop. 1,300,000.

Manby, George William (1765-1854), inventor of life-saving appliances in cases of shipwreck, born at Hilgay, Norfolk. Entered the army and later attained the rank of captain In 1323 heaves a live to be tain. In 1783 he caused a line to be thrown from a small mortar over Downham Church; this convinced him, and he found an opportunity for proving its utility in 1808, when a brig was wrecked at Yarmouth and all lives were saved.

Mancha, La, an old dist. of Spain. in the S. of New Castile, now comprised in the provs. of Ciudad Real and Albacete. It is noted for mules, and for Val-de-Penas, a light red wine. Cervantes' characters, Don Quixote and Sancho Panza, have made the

district famous.

Mancha-Real, a tn. of Jäen prov., Andalusia, Spain. Pop. (dist.) c. 6000. Manche, a maritime dept. of N.W. France on the English Channel (La Manche), formed (1790; from the old province of Normandy. It consists in part of the peninsula of Cotentin, terminating N.W. in Cape la Hague. The chief products are grain, flax, hemp, beetroot, and fruit (especially apples for cider), and horses are reared. In the S.W. is the Bay of St. Michel, his property by the Portuguese In- In the S.W. is the Bay of St. Michel, quisition, he commenced to publish lying around the Tombelaine and books. His knowledge of the Scrip- Mont St. Michel. Saint Lô is the tures was so great that even eminent capital and Cherbourg is on the N.

Manchester, a city, municipal, co., and parl. bor. of Lancashire, England, 189 m. N.W. by N. of London. M. may be said to have grown up with the cotton industry, of which it is the centre. It is a modern town, and covers an area of 21,645 acres. Four rivers pass through the citythe Irwell, Medlock, Irk, and Tib, the latter being continuously built over, and the Manchester Ship Canal (q.v.) connects it with the Mersey, and so makes it a great British seaport. town of M. proper is not very large. and the buildings are mainly of brick; the principal thoroughfare is Market Street, which is also one of the narrowest, most of the others having been widened from time to time. Deansgate in particular having been greatly improved. The greater part of the population live outside the city to avoid the smoke and dirt. Trams and railways link up the various suburbs and towns, and the whole neighbourhood, but for the numerous parks and open spaces, is one large urban district. M. has been the seat of a bishopric since 1847, James Prince Lee (d. 1869) being the first bishop. The cathedral is a disappointment, being nothing more than a parish church. It is a good specimen of the Perpendicular, the principal part dating from the 15th century. It has been frequently recentury. It has been frequently restored. There are one or two fine windows, one to the memory of General Charles Gordon, and some interesting old carved choir-stalls. The other churches are not of any particular interest. There are several Jewish synagogues, and an unusually large Outler meeting-house. The large Quaker meeting-house. most interesting of the old buildings is the Chetham Library. M. possesses some of the finest public buildings in the country, the town hall (1877), designed by Alfred Waterhouse, being an especially magnificent building. It is, however, too small for the everincreasing municipal activities of the town, and a scheme for a new series of buildings awaits final adoption. The present hall is decorated with panels by Ford Madox Brown; it also contains a very fine organ. Other fine buildings are the Art Gallery, designed by Sir Charles Barry and containing an excellent collection of modern paintings; the Royal Infirmary (1909); the Royal Exchange (1869), which is one of the largest halls in the kingdom; the assize courts (1864), designed by Alfred Waterhouse, a fine specimen of decontains a very fine organ. Waterhouse, a fine specimen of de-corative art; the Free Trade Hall, and the Athenœum. The Whitworth Institute lies in the centre of a park.

coast. Area about 2475 sq. m. Pop. It was founded by Sir Joseph Whit-487,400. worth, and contains valuable art collections. There are numerous statues and monuments in the city. M. is well provided with means of education. It possesses an ancient grammar school founded by Hugh Oldham, Bishop of Exeter, in 1519, also a blue coat school, founded by Humphrey Chetham in 1653, which possesses a fine library containing many rare volumes, besides many other institutions. The college founded by John Owens in 1846 has now developed into the Victoria University. It received its charter in 1880, and was then incorporated with the colleges of Liverpool (q.v.) and Leeds (q.v.), which were separated in 1903. The buildings designed by Waterhouse include the Whitworth Hall, the Manchester Museum, and the Christie Library, containing a very fine collection of volumes. Besides the libraries already mentioned. there are the Manchester Free Libraries (1852), with an excellent reference library to which several special collections have been pre-sented. The John Rylands Library contains the great Althorp Library and a splendid collection of early printed books. Literary and scientific associations of all kinds flourish. The Manchester Guardian (q.v.) is perhaps mannesser Guardian (q.v.) Is perhaps the leading Liberal daily newspaper in the country. The city possesses no less than nine fine parks and more than thirty smaller open spaces. Heaton Park, containing Heaton House, at one time belonging to the earls of Wilton, is the largest; there are also Queen's Park, Alexandra Park, and the Bellevue Zoological Gardens with a good collection of Gardens with a good collection of animals. Of the theatres, the prinanimals. cipal are the Theatre Royal, Princes Theatre, and Queen's Theatre. Miss Horniman's repertory company 'at the 'Galety' Theatre has been the school for a successful number of new dramatic authors. The concerts, first established by Sir Charles Hallé, have made M. an important musical centre. A municipal charter was granted to the town in 1838, it became a city in 1853, and a county borough in 1889. It is divided into thirty wards, and the corporation is composed of thirty-one aldermen and ninety-three councillors. The city rateamounts to over £1,000,000 a year. They have had a lord mayor since 1893. The municipal water supply comes from Longendale and Lake Thirlmere, and the city is well lighted with both gas and electricity. There is an excellent service of electric trams of over 160 m. of track, owned by the Corporation since 1901. Communication is good, there are four

large railway stations-London Road, the lines being the Lancashire and Yorkshire, London and North-Western, the Midland, Cheshire lines, Great Northern, and Great Central railways. The city returns six mem-

bers to parliament. Trade and commerce.—M. is regarded as the centre of the cotton trade and has earned the name of 'Cottonopolis,' but it must be remembered that the spinning and weaving is almost entirely carried on in the many towns of Lancashire, and the city is the distributing centre of cotton goods for the whole world. It has thus for long attracted a large number of foreign merchants, especially Germans. Apart from this mer-cantile side M. has large and very miscellaneous industries. The machinery and engineering works are numerous. It is also one of the largest centres of hat making, while clothing, india-rubber goods, chemical works, etc., are among its special activities. M. is also the distributing centre for

the food supply of one of the densest

populations in the world. The Man-

chester Chamber of Commerce dates

from 1797 and is one of the oldest in the country.

That M. was at one time occupied by the Romans is evident by the coins, pottery, etc., found there; it is also supposed to have been the home of Ina, King of Wessex (639). M. is mentioned in Domesday; it received a charter in 1301, the manorial rights passing from the Greslys to the De la passing from the Greslys to the De in Wares, Wests, Lacys, and Mosleys successively, until 1845, when they became vested in the municipality. The city early became a flourishing manufacturing centre. Camden, who died in 1623, says: 'Where the Irk runs into the Irwell, on the left-hand says and searce three miles from the bank, and scarce three miles from the Mersey, stands that ancient town called in Antoninus (according to different copies), Mancunium and Manutium. Perhaps, as an inland town, it has the best trade of any in these northern parts. The fustian manufacture, called Manchester cottons, still continues there.' During the Civil War it was besieged by the Royalists, but later we find it occupied by Prince Charles Edward (1745), and the M. regiment being raised to defend the Stuarts. In 1819 M. was the scene of what was known as the Peterloo Massacre, which started the Reform agitation. The crowd having Reform agitation. The crowd having exonerated by a bill passed in both met at St. Peter's Fields, where the houses. After the outbreak of civil Free Trade Hall now stands, to petition parliament, the yeomanry the parliamentary forces, and in Aug. were called out, and many people 1643 he was put in command in place were killed and injured. Since then of Essex. Took Lynn Regis and Lin-M. has always taken an active part

in politics, and has been markedly Liberal and progressive in its sympathies, especially in regard to Free Trade, its economic position giving rise to the name 'Manchester school' for the extreme laisez-faire school.

for the extreme laissez-faire school. Pop. (1910) 714,333. See John Reilly, History of Manchester, 1861; W. A. Shaw, Manchester Old and New, 1894; T. Swindells, Manchester Streets and Manchester Men, 1906-7 (3 vols.).

Manchester Men, 1906-7 (3 vols.).

Manchester of New Hampshire, N. America, situated on the left bank of the Merrimac R., 18 m. S.S.E. of Concord, and 59 m. N.W. from Boston. The town is built on a plain at the height of 90 ft. above the river. at the height of 90 ft. above the river, and is regularly laid out. The principal street is wide, and is upwards of a mile in length, parallel to the river. There are four public squares in difthere are nour public squares in dif-ferent parts of the town, some of which are handsomely ornamented. The houses are mostly of brick, but there are many wooden houses, some of which are tasteful structures. The slope from the plateau on which the town stands to the river is occupied by the mills and houses of the workmen. M. possesses twelve churches belonging to different denominations; and the educational establishments consist of a high school, two grammar schools, besides others of an inferior class. M. has risen into importance quite recently by reason of the water power, which affords great advantages to the manufactories here. Not far from the town the river has a fall of 54 ft. in a mile, which is taken of 54 ft. in a mile, which is taken advantage of by means of dams and canals, so that it turns many thousand spindles. The town is chiefly remarkable for its manufactures. There are also at M. print-works, paper-mills, machine-shops, foundries, and other establishments. In the year 1833 this nage only contained year 1839 this place only contained fifty inhabitants, but it has rapidly increased since that time. M. received its charter in 1846. Pop. (1910) its charter in 1846. Pop. (1916) 70,063, showing a 291 per cent. in-crease in the last twenty years. Manchester, Edward Montagu,

Manchester, Edward Montagu, second Earl of (1602-71), an English general and statesman. Baron Montagu of Kimbolton in 1626 and succeeded to his father's title in 1642. Both in the Short and Long Parliaments he identified himself with the popular and puritan cause against the king. Accused with the 'five members' of high treason but exonerated by a bill passed in both houses. After the outbreak of civil general lethargy was retired in favour by hydraulic power. of Cromwell.

Manchester Guardian, a penny daily, established 1821. Began as a weekly paper. One of the foremost and most polished Liberal organs of the day. Long before the early eighties its advertisements could truthfully boast a circulation not only throughout the cotton and woollen manufacturing districts, but in nearly every market town and village in the N. of England. As long ago as the early seventies its profits were estimated at £30,000 a year; it possessed a foreign service, a staff of special and ordinary correspondents, a corps of parliamentarreporters, and was characterised by generally distinguished tone which made it the equal, if not in some respects the superior, of the leading London dailies of that time. credited with often having published news during, and for a decade after, the Franco-German War some time in advance of the *Times* and the Standard. Early in its history its columns were notable for the anticorn law articles of Cobden. It has always preserved a strictly neutral attitude in regard to religious matters.

Manchester Ship Canal. This canal was opened by Queen Victoria in May 1894. Up to that time there had been barge navigation between Liverpool and Manchester along the rivers Mersey and Irwell, and the Bridge-water Canal was extended to Runcorn water Canni was extended to reinform in 1722. The first plan for a direct waterway between the two cities was made in 1825 by W. Chapman, and in 1840 another was designed by H. Palmer, but it was not until 1882 that a Bill was brought before parliament in which the design of Sir E. Leader Williams for a canal with locks was adopted. Owing to opposition the Bill did not pass until 1885, and it was not until two years later that work was begun. The length of the canal is 35½ m.; it begins at Eastham on the Cheshire side of the Mersey and runs Runcorn near or through the Mersey estuary, it then goes inland to Latchford, near Warrington, where tidal action ceases, and from there to Manchester it is fed by the waters of the Mersey and Irwell. There are three entrance locks which keep the water level nearly to mean high-water level. The original depth of the canal was 26 ft., but it has since been made 2 ft. deeper. At the narrowest part it is 120 ft. wide, so that it is possible for large vessels to pass one The canal is a splendid engineering feat. At Barton the Bridgewater Canal crosses the R. Irwell on a swing-aqueduct, the first of the kind constructed in England. This

Newbury (second), but owing to his aqueduct is made of steel and worked The canal is crossed by five lines of railways, carried by high-level viaducts. There are also nine swing bridges for main roads, while underneath the canal great syphons are constructed to enable the R. Gowy to continue its course uninterrupted. At intervals along the whole length of the canal there are wharves and works of all kinds, as at Runcorn and Weston Point, and at Manchester the docks cover an area of over 100 acres (water space), with over 6 m. of quay walls and 290 acres of wharf space. The immense advantage it has been to thire and the more than

> outlay. In 1911 the tonnage of vessels entering Manchester was 1,329,679, and that

of those clearing 1,095,478. Manchineel, or Hippomane mancinella, a tall tree with glossy, ovate leaves, and small, inconspicuous flowers which are followed by a yellowish-green, apple-like fruit (order Euphorbiaceæ). All parts of the tree are very acrid and poisonous.

Manchuria, a country in the E. of Asia, lying between China and Mon-Asia, lying between China and Mon-golia on the W. and N.W., and Korca and Russian territory on the E. and N. The R. Amur forms the boundary on the N. It is divided into three provinces, Northern M., or Heil-ung-kiang; Central M., or Kirin; and Southern M., or Sheng-king. The northern and eastern part of the country is very mountainous, the re-mainder being a plain which stretches mainder being a plain which stretches to the Gulf of Liao-tung. The mountains S.E. of Kirin rise to a height of 8000 ft., the western ranges are chiefly volcanic. The principal rivers are the Sungari, Mutankiang, and Ussuri, they are all navigable by native junks, and the city of Kirin on the Sungari can be reached by steamer. Mukden is the capital of M., situated in the province of Sheng-king and occupying a good position on the R. Hun-ho. It is a city of considerable size and importance (pop. able size and importance (pop. 150,000). Kirin is the principal city of the province of Kirin, and Hellungkiang of the province of Hei-lung-kiang. The chief commercial town and port is Niuchwang, at the head of the Gulf of Liao-tung. The country is well supplied with railways, the principal run from Peking to Kirin viâ Mukden, and the next in importance from Niuchwang to Petuna in the N.W. of Kirin. The mineral wealth, but partly explored, is great. coal and iron mines are extensively worked and the yield of precious stones is valuable. Opium and indigo are largely grown, also cotton,

wheat, barley, tobacco, and millet. are therefore regarded by the Mother tall millet forms a large part of the peasants' food. Potatoes and Koran. Their religious books are: cabbages grow well, and many hardy Sidra rabba (Great Book), Sidra fruits. The climate is very extreme, ranging from 90° F. in summer to 10° below zero in winter. The wild ascension of the soul after death), animals are numerous, bears, wild boars, wolves, tigers, and panthers (an astrology). Sce Schaff and Jackschound. The river fisheries are boars, wolves, tigers, and panthers abound. The river fisheries are valuable. The country was originally inhabited by the Manchus, and the first appearance of these people in evacuate the province. their part of the agreer

their part of the agreer declared between Russia and Japan, the result being that at the conclusion of peace (1905) Japan handed over M. to China. Russia and Japan both having special interests in M., See O'Connor's Mandalay, 1907. It is was necessary that an understanding should be arranged with regard to their delimitations; also, British and damus from the High Court is in calling unpointing of the peace to show. their delimitations; also, British and other foreign interests had to be guarded in accordance with the principle of the 'open door' for British and foreign commerce being uninterfered with. A definite agreement delimiting spheres of influence and preserving the 'open door' was signed in 1912 between Russia and Japan. Area about 390,000 sq. m. Pop. 16,000,000.

Mancini, Pasquale Stanislav (1817-88), a lawyer and statesman, born near Ariano. He soon became a prominent publicist, and in 1848 par-ticipated in the Neapolitan move-ments, after which he retired to Turin and practised as an advocate, being appointed professor of inter-national law at the university there. In 1861 he became Minister of Public Instruction for a short period. From 1881-83 he was Minister of Foreign Affairs. He published *Prelezioni di* Affairs. He published Diritto Internazionale.

Mancinus, C. Hostilius, consul, 137 B.O., was defeated by the Numan-tines, and purchased his safety by making a peace with them. The senate refused to recognise it, and delivered him over to the enemy, who refused to accept him.

(Mandâ - gnosis), Mandæans Mandeans (Manda gnosis), an sisting of two classes, the highest of Eastern religious sect, now very few in numbers, residing on the eastern shores of the Tigris, and having a restignoid derived from the N.T. but tainted with Jewish and Parsic elements. They were called 'Christians of St. John' because they venerated John the Baptist, while they call the Baptist, while they call a sign of office or rank, but as a rethemselves 'Subbà 'or Baptists, and sign of office or rank, but as a reward for peculiar merit. The buttons

Know-

Upper China dates from the beginning of the 10th century. For their relations with China see China. During the Boxer outbreak (1900) the Russians occur Burna. The walled city is now the pied the country. A convention was arranged (1902) between China and Russia, and the latt above onasteries. ctensively.

185,000.

ing upon justices of the peace to show cause why they should not exercise their jurisdiction in a particular case, ther jurisdiction in a particular case, and, generally speaking, the object of the writ is to enforce the performance of some duty or to test the legality of the performance by the inferior court of some duty of a public nature in respect of which there exists no other respect of which there exists no different available and adequate legal remedy. But in theory it is a royal command which may be directed to any person, corporation, or inferior court (q.v.) within the king's dominions, requiring them to do something appertaining to their office and duty in accord-ance with right and justice. Illustrations of its application: M. to a mayor and corporation to counsel them to receive and count votes; to poor law guardians to compel them to appoint a vaccination officer; to justices at Brewster Sessions to compel them to hear and determine applications for renewals of licences.

Mandarin, the general name for a Chinese magistrate, or public official, civil or military. The civil Ms., chosen from the men of letters or scholars from the men of teters or scalairs from every part of the country, are divided into nine degrees, each consisting of two classes, the highest of which are (or were) ministers of state, counsellors of the emperor, and presidents of the supreme court. Each order is distinguished by the button warm on the top of the one, while the

the lowest of gilt metal.

Mandarin Duck, or Chinese Teal (Aix galericulata), a very small ornamental waterfowl. The drake's head has a long, erectile crest, green, purple, and chestnut in colour, and a curious fan or sail. A duck and drake are an extraordinarily devoted pair.

Mandarin Orange, a fruit with red-dish rind and dark red pulp, borne by Citrus nobilis, the Noble orange, which according to Sir J. Hooker is a

variety of C. aurantium.

Mandate, in Scots law, a contract (founded directly on the Mandatum of Roman law) in which one person (the mandant) employs another (the mandatory) as his agent. Generally speaking, the services of the mandatary are impliedly gratuitous, for the execution of a mandatum in Roman law was essentially the discharge of office of friendship, and never really lost its character of a fiduciary relationship. It is of but little importance in Scots law at the present day, and really forms no more than one, and that a very unusual branch, of the ordinary contract of principal and agent. The mandatory, where he becomes a gratuitous bailee of the mandant's property, is liable only for gross negligence; if paid, the ordinary principles as to the liability of a paid agent apply.

Mandevilla, a genus of tall climbing shrubs, natives of Central America, of the order Apocynaceæ. Many species bear large, showy funnelshaped flowers in simple racemes; but M. suavolens is the only species much grown. It requires stovehouse treatment, and produces handsome snow-white fragrant blooms.

Mandeville, Bernard de (1670-1733), an English philosopher and satirist, an Engush philosopher aid satirist, born at Dordrecht, where his father was a physician. He was educated at the Erasmus School, Rotterdam, and at the Leyden University. In 1691 he took his medical degree and came to England, but did not practise widely. His fame rests on his Fable of the Rees or Private Vices Public Page. the Bees, or Private Vices Public Benefits, which appeared first in 1705, and later editions in 1714 and 1723. was primarily written as a political satire on the state of England in 1705. when Marlborough's ministry accused by the Torics of advocating the French War for personal reasons. He also wrote Free Thoughts on Re-He also wrote Free Thoughts on Religion, The Origin of Honour, The Planter's Charity, etc. Sec J. M. Robertson, Pioneer Humanists, 1907. Mandeville, Sir John, was the ostensible author only of a book of travels bearing his name, written about the middle of the 14th century,

of the higher orders are made of giving an account of journeys in the coloured coral, the lower of glass, and East, including India and the Holy Land. It appears to have been com-piled from the writings of William of Boldensele, Oderic of Pordenone. and Vincent de Beauvais. The name of M. was probably fictitious.

Mandi, a small native state of the Punjab (N.E.), India, on the S. slope of the Himalayas. The town is on the Beas, 45 m. N.W. of Simla. Pop. 8000. Area of the feudatory state 1200 sq. m. Pop. 175,00 Mandi State Gazetteer, 1908. Pop. 175,000.

Mandible (Lat. mandibulum, the jaw), a name applied in anatomy and zoology to the jawbone. In birds it zoology to the jawbone. In birds it signifies both upper and lower jaws together with their horny integument, although the terms maxilla and mandibula are sometimes used to refer respectively to the upper and

lower parts. In mammals the term only applies to the under jaw. In insects it applies to the anterior, upper, or outer pair of jaws. Mandingoes, Mandingos, Mandingos, Mandingoes, Mandingos, Mandingo gans, Mande-nga, or Mandiña. the names of an important division of Sudanese negro peoples of W. Africa, especially in Senegambia, between the headwaters of the Niger and the Senegal. Among the chief tribes and dialects are the Soni-nka, the Swa-ninki people of Azer and the S.W. Sahara, the Malinke, and the Bamana (incorrectly

tribes are th

and the Jah or nka means people). They are highly intelligent, were early leather and metal workers, traders, and herdsmen, and are marked by a passionate love of music. The majority represent a mixture of negro, Berber, and Arab elements. The Mandi and Arab elements. speech is very widely diffused, and largely employed by translators. The empire of Melle (Mali) was founded by their ancestors under Musa (1311-31). They were conquered by the Sonrhai (Songhai) about 1500. They are zealous Mohammedans, estimated at over 10,000,000 in number. See Binger, Du Niger au Golfe de Guinte, 1892; Lugard, A Tropical Dependency, 1905; Johnston, Liberia, 1906; Marc, Le Pays Mossi, 1909.
Mandla, a dist, and th. of the Central Control of the Central Cont

tral Provinces, British India. The town (capital) is on the Narbada, 50 m. S.E. of Jabalpur. Area (dist.) 5056 sq. m. Pop. (dist.) 320,000; (tn.)

about 5500.

Mandogarh, or Mandu, a deserted town of Dhar state, Central India, stretching for 8 m. along the crest of the Vindhyas, 35 m. from Indore. It was the capital of the ancient Moham-median kingdom of Making and her medan kingdom of Malwa, and has ruins of a fine mosque of Pathan

architecture. Sec Campbell. Gazetteer! of Bombay (part ii., vol i.), 1896.

Mandoline, a stringed musical in-strument of the lute family (treble member), but with deeper convexity of back. It is of Italian origin, but is now common in most civilised lands. The two chief varieties are the Neapolitan (with four pairs of metallic strings), and the Milanese (with five pairs). It is played with a plectrum or quill of tortoise-shell, whale-bone, or some pliable substance, held in the right hand. The fingerboard, or neck. has many frets across. Sec Grove,

Dict. of Music, vol. iii. Mandrake, or Mandragora, a small genus of perennial plants of the order Solanacea, of exceptional legendary interest. They are stemless plants, with thick tap roots and dark-green wrinkled leaves. M. autumnalis bears pale purple flowers in September, and M. officinar white or blue flowers in May, followed by yellow, globose fruit. Both have been supposed to be the M. of Genesis, and the plants were and still are credited with many

miraculous properties.

Mandrel, a cylindrical bar or spindle which is used for a variety of purposes in engineering: the M. is often driven into a hole to afford a purchase. The name is also used technically for specific parts of a machine, e.g. the M.

of a lathe, etc.
Mandrill, a large W. African baboon with immense canine teeth and other features in which it approaches the carnivora. Its large blood-red ischial callosities, and huge, naked, gaudilystriped cheeks, render it one of the most hideous creatures in nature. It is insectivorous.

Mandsaur, or Mandesur, a tn. of Gwallor state, Central India, on a trib. of the Chambal, 106 m. N.W. of Indore. A treaty was signed here (1818) ending the Maratha-Pindari War. There is trade in opium. Pop.

about 21,000.

Manduria, a tn. of Lecce prov., S. Italy, 22 m. S.E. of Taranto. Pliny describes its ancient well. Olives, fruit, grain, and wine are pro-Pop. (with Uggiano Monte-

duced. Pop. fusco) 13,000.

Mandvi: 1. A seaport of Cutch, India, on the Gulf of Cutch, 35 m. S.W. of Bhuj. Once an important commercial emporium, it is still a port of call for British India steamers, and has direct steamship communication with Bombay. Pop. about 25,000. 2. A tn. of Bombay, British India, on the Tapti, 30 m. from Surat. Pop. 5000.

Manerbio, a tn. of Brescia prov., Lombardy, N. Italy, on the Mella, 13 m. S. W. of Brescia. Pop. 5500. Mānes, or Di Mānes ('the good

gods '), in Roman mythology the disembodied and immortal spirits of the embodied and immortal spirits of the dead, also applied somewhat indefinitely to the powers of the lower world. They were regarded as gods, and only propitiated with offerings, especially at certain festivals (Parentalia and Feralia). Cf. LARES and PENATES. See Ovid, Fasti, ii. 535, 617, 842; Ciccro, De Leg. ii. 9, 22; Wissowa, Religion und Kultus der Römer (1902).

Manfalut

Manet, Edouard (1832-83), a French realistic genre and portrait painter, regarded as the founder of impresregarded as the founder of impres-sionism. He was sent on a voyage to Rio de Janeiro (1848), but persisted in taking up an artist's career, and became a pupil of Couture and Cour-bet. He travelled widely in Europe, and devoted much time to studying the Spanish masters in the Louvre. He became head of the Ecole des Batignolles (1863). His works were severely criticised and often rejected by the Salon. They include 'Buyeur by the Salon. They include 'Buyeur d'Absinthe' (c. 1860), 'Enfant à l'épée,' Bon Bock' (1873), 'Olympia' (1865), 'The Garden' (1870), first of the plein air paintings, and portraits of Zola, M. A. Broust, and Rochefort (1881). See (1881). See (1867), Bazire Von Tschudi

(1893). (1893).

Manetho, an Egyptian priest and historian. He lived during the reign of Ptolemy II. (Philadelphus), and was probably a native of Schennytus in the Delta. His writings were the history and theology of ancient Egypt, his greatest work was the history of Egypt written in Greek. Only fragments have come down to us, eaved by Iosenhus and the tables of ragments have come down to us, saved by Josephus, and the tables of dynasties of the kings divided into three books. The Christian chronographers have kept for us a great deal of his work, though many of them differ and are, therefore, untrust-worthy, Julius Africanus, Eusebius, and Georgius Syncellus have all handed down quotations and references that are valuable. The fragments of M.'s work have formed the accepted foundation for the present scheme of the Egyptian dynasties with their allotted periods. See A.

(1904);

Geffre .

Manettia, a genus of evergreen climbing plants of the order Rubiacere, natives of tropical America. M. luteo-rubra bears scarlet, white, and orange flowers from March to December, and is valuable for pillars in the stovehouse.

Wiedemann, Aeguptische Geschichte.

Manfalut, a tn. of Upper Egypt, Africa, on the Nile, 20 m. N.W. of Assiut. It contains Coptic churches.

about 14,000.

Manfred (1231-66), King of Sicily and natural son of the Emperor Frederick II., on whose death he acted as regent in Italy, during the minority of his nephew, Conradin. In 1258, on a rumour of the death of the latter, he was proclaimed King of the Two Sicilies and crowned at Palermo. He was thereupon excom-municated by the pope, but marched into the papal territory and was acknowledged master of Tuscany. Later, however, Pope Urban IV. re-excommunicated him, and bestowed his kingdom on Charles I. of Anjou, and finally he was defeated and killed at Benevento. M.'s government was beneficial to the country. He established schools in all the large cities, founded Manfredonia, and built the harbour of Salerno.

Manfredonia, a tn. of Foggia prov., Italy, on the Gulf of M., an inlet of the Adriatic, 22 m. N.E. of Foggia. It was founded by Manfred of Sicily (1263), 2 m. E. of the ancient Sipontum. The Turks pillaged it (1620). Figs, almonds, and carobs are exported. There are salt lagoons

near. Pop. (com.) 12,000.

Mangaldan, a tn. of Pangasinan prov., Luzon, Philippine Is., near S. shore of the Gulf of Lingayen. It is connected by a high-road with

galur, a seaport Madras, British India, cap. of S. Kanara dist., on the Malabar coast, 125 m. N.N.W. of Calicut. Coorg, coffee, and pepper are exported. It is the headquarters German (Basel Lutheran) mission, has a government college, and a Jesuit college of St. Aloysius (both connected with Madras Uni-Weaving versity). shipbuilding are among

It bravely resisted army (1782-83). Pop. 44,000.

Mangan, James (Clarence) (1803-49) an Irish poet. He wrote for the Nation (founded 1842), and con-tributed to many Irish newspapers under various pseudonyms. Anthounder various pseudolylis. Anno-logia Germanica (1845), and Romances and Ballads of Ireland (1850), were among his chief works. See O'Dono-ghue's Life and Writings of Mangan, 1897, editions of Poems, 1903, and

There are woollen manufactures. Pop. | somewhat difficult to reduce; it is best prepared by mixing the oxide or the carbonate with charcoal and subjecting the mixture to a high temperature. The metal is dark brown or black in colour, takes a high polish and has a specific gravity of 7. It oxidises readily, evolves hydrogen slowly from water and rapidly from sulphuric and hydrochloric acids. It is used commercially for the production of ferromanganese and of various kinds of steel. The chief compounds are: Manganous Oxide (MnO), a dark powder obtained by igniting hydrogen; Trimanganese Tetroxide (Mn.O.), a reddish powder obtained by heating any oxide in the presence of air; Manoanese Security the higher oxides in a current of Manganese Sesquioxide of air; stanganese Sesquioxiae (Mn₂0₂), a dark brown powder obtained by heating any oxide in a mixture of nitrogen (75 per cent.) and oxygen (25 per cent.); Manganese Dioxide (MnO₂), a black solid found native as pyrolusite, and prepared as a hydroxide by shaking up the programs by hydroxide Mn(MH) hydroxide, Mn(OH)₂, manganous with chlorine water. It may be used as a source of oxygen when heated alone or with sulphuric acid; the manganates of the alkalies, formed by fusing dioxide with the hymanganese droxides of the alkalies; the permanganates of the alkalies, formed by treating the manganates with acids: Manganous Sulphide (MnS), formed by precipitating solutions of manganese salts with ammonium sulphide: Manganous Sulphale (MnSO4), a pink crystalline solid, formed by heating the dloxide with strong sulphuric acid. (MnCl₂), a ed by pass-acid over red ing over heated manganese carbonate. Some

of the salts of manganese are used in The manganates and of sodium and potas-

sium are used in solution as disinfect-

ing fluids. Mangalarén, prov., Luzon, of the Agno ngayen. Pop.

13,000.

Mange, a parasitic disease of the skin caused by the presence of minute mange-mites. They are of four main kinds: (1) Sarcoptes, which burrow the skin; (2) Psoroptes; (3) and (4) Dermatodectes,

more superficial in their M. affects the horse, cow, dog, cat, and also man. notifiable

as also is heep scab. easy dress-

carbonates in iron ores. The metal is

Mangel Wurzel, or Mangold, an important root crop rich in cane sugar and derived like sugar beet and garden beet from Bela maritima, a weed (order Chenopodiacea), found on the English S. coast. The varieties of M. are of three types—long, tankard, and globe, red, yellow, or orange in colour. Many varieties are suited to special conditions, and the gold tankard is the most nutritious. The fruit is a rough integument containing four or five seeds, and is drilled in April in rows 20 to 30 in. apart, the young plants being sub-sequently singled out 10 to 14 in. apart in the rows. The crop requiring a warm dry climate, is grown chiefly in the S. of England, thriving best in richly manured, deep, clay loams. The root is very sensitive to frost and must be lifted in October, before it is ripe; it is kept in clamps till February before feeding to stock.

Manghishlak, a region on the eastern shore of the Caspian Sea. Cap. Fort Alexandrovsk. Area 60,000

sq. m. Pop. 150,000.

Mangifera, a genus of tropical evergreen trees (order Anacardiaceæ) with alternate entire leaves and panicles of small flowers, followed by edible Specimens are sometimes grown in loam and sandy peat in the hothouse and occasionally ripen the

Manglaur, a tn. in the dist. of Saharanpur, United Provinces, India, 50 m. N.E. of Mecrut. Pop. 10,000.
Mangnall, Richmal (1769-1820), a

schoolmistress, was probably born at Manchester, and received her educa-tion at Crofton Hall, near Wakefield, Yorkshire. She afterwards joined the staff, and eventually became head of the school. She has written: Historical and Miscellaneous Questions for the Use of Young People, 1800; Half an Hour's Lounge, or Poems, 1805; Compendium of Geography, 1815. Mango, the kidney-shaped fruit,

yellow and red in colour, of the indica) which both for the

ous medicinal

and economic uses.

Mangonel (from mangonellus a diminutive of Lat. mangonum, an engine of war), the name given to a contrivance used in ancient and mediæval times for throwing stones at a fortress, etc. It was worked by a counterpoise and had much in common with the ballista.

Mangosteen, the brown orange-like fruit, filled with a most deliciously flavoured sweet pulp, of an evergreen tropical tree (Garcinia mangostana) with red unisexual flowers (order Guttiferm).

Mangrol, a seaport on the S.W.

coast of Kathiawar, India, 69 m. W.N.W. of Diu. Pop. 15,000. Mangrove, or Rhizophora, a genus

of tropical trees of great value in reclaiming coast land. The seeds germinate upon the parent tree, sending down roots of considerable size, and forming as the trees grow a great network which retains vegetable matter. and gradually converts swamps into solid ground. The fruit of Rhizophora mangle is edible.

Manhattan, the co. seat of Riley co., Kansas, U.S.A., 52 m. N.W. of Topeka on the Kansas R. It has iron foundries and manufs. machinery. Pop. (1910) 5722.

Manhattan Island, situated at the mouth of the Hudson R., U.S.A. Its length is about 13 m., and its greatest width about 21 m. It forms the commercial and financial centre and borough of Manhattan, which is the chief residential part of New York City. The rocks of which it is formed rise to a height of more than 240 ft. in the N. of the island. Peter Minuit, the first Dutch governorgeneral, bought it from the Indians in 1626 for the equivalent of 25 dol-

lars (£5). Maniago, a tn. In the prov. of Udine, Italy, 25 m. W.N.W. of Udine. Pop. 5500.

Manichæism, a religion professed and taught by a Persian named Mani (216 A.D.), a man of noble birth and a native of Ecbatana. He was well native of Ecbatana. He was well educated by his father, and brought up as a Baptist, a sect connected with the Mandeans. From an early age Mani questioned the truth of his religious teaching, and at twenty-five he proclaimed his new faith. At the time of his birth two great religions. utterly opposed to one another, were the accepted creeds of the world he knew. One was Mithraism, an Iranian creed, and the other was Christianity. These two beliefs, although opposed, had many things in common. Mani had studied both, and also the ancient Persian Magism, while his own new faith combined many points from each creed. M. was a dual system of religion; good and evil reigned as equal powers; the first man was a product of Satan, though containing a spark of the light of God. Mani believed he was the last of the chosen prophets, preached that Noah and Abraham were also prophets, and probably Zoroaster and Buddha; he also taught a curious, shadowy, spiritual belief in Jesus Christ, though he did not allow He had been a man, or suffered and died. Mani travelled to India, and through Asia to China, preaching his faith and gaining many believers. The Persian king, Shapur I., was certainly influenced by his teach-

ing; Hormizd, his successor, was tolerant and interested in this faith, but Barham I., who succeeded Horout Barnam 1., who succeeded Hor-mizd was a believer in the power of the priestly caste of Magians, who, bitterly hostile to Mani and his creed, secured his deliverance into their hands to be dealt with. They crucifled him, and flaved the body while yet alive. His followers were persecuted with great cruelty, but the religion continued to increase in the number of its followers, many people died for their faith, and the belief itself existed, though modified by Christian influences, until the 13th century, and is found continually at the base of various early and medieval heresies, as the Bozonists, Albi-See Recherches sur le (Brussels). 1908, F. genses, etc. Manichéisme Cumont, etc.

Manifest (from Lat. manifestus. plain), a document, signed by the master of a vessel, and containing a list of all the packages or separate items of freight on board the vessel, with their distinguishing marks, numbers, destination, description. etc. It is designed for the use and information of the Custom House

officers.

Mainfesto, formerly a public declaration of a prince to begin war and explaining his motives. It was published within his own territory and communicated to other states through

communicated to other states through
the channels of diplomacy.
Manihiki or Penrhyn Islands are
situated in the Pacific Ocean, N. of
the Society Is., and to the W. of the
Marquesas. The chief islands are
Penrhyn, M., and Caroline. They
were annexed to Great Britain during
the 19th century, and are part of
New Zealand for administrative purposes. Area 50 sq. m. Pop. 1700.

der Euphor-

plant, is extensively cultivated in phant, is extensively contracted in tropical America for the production of cassava and tapioca. See Cassava. Manikaland, a region in S.E. Africa,

which forms part of Portuguese E. Africa, and part of Rhodesia, crossed by the railway from Fort Salisbury to Beira. The district produces gold.

Manila, the cap. and principal port of the Philippine Is., on the W. coast of the island of Luzon, at the mouth It was founded in of the Pasig. 1571 by the Spaniards, but was captured by the American troops under General Wesley Merritt in 1897, and since then many improvements have taken place, both in and about the city. The railway service has been city. The railway service many extended, and the small tramways have been replaced by an American But the

was greatest improvement is the construction of a deep and safe harbour. which has greatly increased the importance of the commerce. M. is now the greatest hemp market in the world, and is also a famous port for the export of sugar, copra, and tobacco, and the import of food-stuffs and manufactured articles. 225,000.

Manila Bay, a large bay on the W. of the island Luzon, Philippine Is. Its mouth is 10 m. wide, and it expands in the interior to a width of

Manilius, Gaius, a Roman tribune in 66 B.c. succeeded in getting a law passed which gave to freedmen the right of voting in the same tribe as their patroni. On this being declared void by the senate, he endeavoured to secure Pompey's assistance by proposing to confer on him supreme command in the war against Mithri-

dates. Manilius, Marcus or Gaius, a Roman poet, lived probably in the reign of Augustus or Tiberius. He was the Augustus or Tiberius. He was the author of a Latin didactic poem about astronomy and astrology en-titled Astronomica, a work in five books, the first two of which treat of astronomy as the foundation of astrology: the rest of the influence of constellations on human destiny.

Manilla Hemp, the fibre obtained from Musa textilis, which grows and is cultivated in the Philippines. The coarser fibre being utilised for cordage and sail-cloth, and the finer for hand-

Manin, Daniel (1804-57), an Italian patriot, elected, during the revolution of 1848, president of the Venetian Republic. From 1831 he became a recognised leader of Liberal opinion in kerchiefs and scarves. Venice; in 1847 he was thrown into prison for a spirited public address of which he was the author. During the annexation of Lombardy to Piedmont, M. laid down his authority, but on the defeat of the Sardinian army at Novara, March 23, 1849, he resumed it, and was the animating spirit of the entire population of Venice during the heroic defence of the city for four months against the besieging Austrian army. On Aug. 24 Venice capitulated, but M., with forty of the principal citizens, being excluded from all stipulations, quitted the city. He retired to Paris, where he died.

Maning, Frederick Edward (1812-83), by birth an Irishman, in 1833 went to New Zealand and settled at Onakl. and in this country he was made a naturalised Maori. He took part in the wars of 1845 and 1861, and in 1865 was made a judge for the purpose of the settling titles of land. He wrote: Old

Manipur: 1. A native state of India, lying between Assam and Upper Burma. It consists of a valley sur-Burma. It consists of a valley sur-rounded by mountains, the principal products being tea, rice, cotton, opium, and tobacco. It is a depen-dency of Assam, and is under British-rule. Area \$460 sq. m. Pop. about 285,000. 2. Or Imphal, the cap. of the state of Manipur, 236 m. N.W. of Mondaley, Pop. 67,000 Mandalay. Pop. 67,000.

Manis, see Pangolin.

Manissa (ancient Magnesia ad Sipylum), a tn. of Asia Minor, 20 m. N.E. of Smyrna. It possesses a number of mosques and other buildings, among them the palace of Kara Osman Oglu. It also manufs, cotton. Pop. 38,000.

Manistee, the co. seat of Manistee co., Michigan, U.S.A., on the Pere Marquette Railroad, 110 m. N.W. of Grand, Rapids. It produces large quantities of lumber and salt.

(1910) 12,381.

Manitoba, a prov. of the Dominion of Canada, known as the 'home of the world's finest wheat.' The prov., which world's finest wheat. The prov., which is 1260 m. long, includes the whole of Lake Manitoba, the greater part of lakes Winnipeg and Winnipegosis, the Dauphin and Swan lakes in the N.W., the Pelican and White Water lakes in the S.W., and many smaller lakes; the total area under water in the province is 9405 sq. m. The surface of the province is an the whole face of the province is, on the whole, level, though there are some hilly tracts, such as the Turtle Hills in the S.W. and the Riding Hills further N:, which are well wooded. In the E. is a continuation of the old crystalline rock formation which prevails in M., and some of the scenery is wild and and some of the scenery is wild and rugged in character. The chief rivers are the Assiniboine (480 m.) and Red River (665 m., of which over 500 are in U.S.A.). The climate is dry and healthy on the whole; hailstorms often damage the growing crops. The trees include the clm, oak, aspen, maple, poplar, etc., and many varieties of fruits are grown. The principal crop is wheat, for the cultivation of which the soil is especially suitable, which the soil is especially subable, and in addition oats, barley, and potatoes are grown. The mineral wealth of the province is not of very much importance, but lignite has been found in the M. portion of the Turtle Mts., and good coal in the S.E.; there are also salt springs in the N.W. The industries are mainly sericultural desiry forming being.

New Zealand, 1863; The History of worthy of mention are Brandon the War in the North in 1845, 1876. (14,453), St. Boniface (9991), and Por-manice, or Mandice, see Cassava. tage la Prairie (6500). The administration is in the hands of a lieutenantgovernor, appointed for five years, an executive council of seven members. and a legislative assembly of forty-two members. The province sends four members to the Canadian Senate, and ten to the House of Commons. The area is 255,732 sq. m. (including the part of Keewatin annexed in 1912), and the pop. 455,614, of which there are more Presbyterians than members of any other sect. Agitatical states of the sect. tions took place in M. concerning the eastern boundary till 1884, and in connection with the Canadian Pacific Railway.

Railway.
Manitoba Lake, a fresh-water lake
of Manitoba, Canada, 60 m. S.W. of
Lake Winnipes. It has an area of
1900 sq. m., with a length of 120 m.,
and a width of 25 m. Irregular in
shape and tideless, the lake is drained
by the Little Saskatchewan R. into

Lake Winnipeg.

Manitou, a tn. of El Paso co., Colorado, U.S.A., 6 m. N.W. of Colorado Springs. Its position, over 6000 ft. above sea-level, in the midst of beautiful scenery at the foot of Pike's Peak, makes it an invertent centre, for numer vicil in invertent. portant centre for summer visitors. It has also mineral springs, giving it an additional attraction. The 'Garden of the Gods' is close by. Pop. (1910) 1357.

Manitou, the name given by several American Indian tribes to the presiding spirits which figure in their religious beliefs. Their number is unrengious benefits. Their named as minimited, as individuals are each supposed to have a M. or protecting spirit. The M. is in almost all cases some animal chosen by the individual to be the object of his worship.

Manitou: 1. A small tn. in Colorado Manitou: 1. A small tn. in Colorado U.S.A. It is a great summer resort, many visitors being attracted by its mineral springs. Pop. 1300. 2. A market th. of the Canadian Pacific Railway, Manitoba, Canada, 102 m. S.W. of Winnipeg. It has flour mills and creamery. Pop. 640.

Manitolin Islands—comprising

Manitoulin Islands -- comprising Grand Manitoulin or Sacred Isle, Little Manitoulin or Cockburn Isle belonging to Canada, and Drummond Isle belonging to the state of Michigan—are situated in Lake Huron. Grand Manitoulin is 90 m. long by 5 to 30 m. broad. Pop. 2000.

Manifowoe, the co. seat of Manifowoe co., Wisconsin, U.S.A., on Lake Michigan, and on the Chicago and North-Western and the Wisconsin Central railroads. Its harbour is the N.W. The industries are manny phicingan, and on the Oneago and agricultural, dairy farming being on North-Western and the Wisconsin the increase, whilst horses, cattle, Central railroads. Its harbour is swine, and poultry are reared. The good, and its lake trade considerable, capital and centre of trade is Win-large quantities of grain being expine (250,000), whilst other towns ported. It manufs. machinery, iron Pop. (1910) 13.027.

Manizales, a tn. in the dept. of Manizales, Colombia, 73 m. S. of Medellin. The inhabitants are engaged in gold mining. Pop. 20,000.

Mankato, the co. seat of Blue Earth co., Minnesota, U.S.A., on the Minnesota R., 85 m. S.W. of St. Paul. It has stone quarries, iron foundries, and machine shops, and manufs. cigars and cement. Pop. manufs. cigars and cement.

(1910) 10,365.

Manley, Mrs. Mary de la Rivière (1663-1724), an author, wrote several plays, two of which, The Lost Lover and The Royal Mischief, were produced in 1696 respectively at Drury Lane and Lincoln's Inn Fields. She led an irregular life, and published several scurrilous works. She is best re-Manners of Several Memoirs and Quality of both Sexes from the New Atlantis (1709-10), in which she slandered many well-bashed After her death Curli published Mrs. Manley's History of her own Life and Times, subsequently called The

Adventures of Rivella.

Manlius, M., consul 392 B.C.; took refuge in the capitol when Rome was taken by the Gauls in 390. One night, when by the Gauls in 390. One night, when the Gauls endeavoured to ascend the capitol, M. was roused from his sleep by the cackling of the geese; collecting hastily a body of men, he succeeded in driving back the enemy who had just reached the summit of the hill. From this heroic deed he is said to have received the authority of Capitaliums. In 385 he surname of Capitolinus. In 385 he defended the cause of the plebeians who were suffering severely from the harsh and cruel treatment of their patrician creditors. In the following year he was charged with high treason by the patricians and being condemned to death by the people, he was hurled down the Tarpeian Rock by the tribunes. The members of the Manlia gens accordingly resolved that none of them should ever bear in future the praenomen of Marcus.

Manlleu, a tn. in Catalonia, Spain, 40 m. N. of Barcelona. Pop. 6000.

Manly, a tn. of Cumberland co., New South Wales, 8 m. N.E. of

Sydney. Pop. 5000.

Mann, Horace, LL.D. (1796-1859),
an American educationist, born at an American educationist, born at Franklin, Massachusetts, graduated at Brown University, Providence, and commenced the study of law. Elected to the legislature of Massa-chusetts in 1827, and in 1836 to the state Senate, of which he became president. He was for eleven years secretary of the Board of Education. In 1843 he made a visit to educational

goods, and agricultural implements. 1 establishments in Europe. His Report was reprinted both in England and America. In 1848 he was elected to Congress, as the successor of expresident John Quincy Adams, whose example he followed in energetic opposition to the extension of slavery. His principal works are his educational reports, and Slavery, Letters, and Speeches, 1851. See Life by his wife, 1865; also C. A. Hubbell, Horace Mann, Educator, Patriot, and Reformer, 1910.

Mann, Sir Horace, see WALPOLE,

HORACE. Tom (b. 1856), a British working-class leader, formerly president of the International Transport Workers' Federation, and now vicepresident of the Workers' Union, of which he was one of the founders. He worked from nine to fourteen on farm or in mine, served apprenticeship in engineering for seven years at Birmingham, settled in London in 1877, joined A.S.E. in 1881, and became a Socialist in 1885. He was one of the leaders of the Great Dock Strike (1889), has been sceretary of the I.L.P., and first secretary of the London Reform Union and of the National Democratic League, and has thrice stood as parliamentary candidate. After residing in Australia, where he continued his Socialist propaganda and was imprisoned, he returned to England, where he became leader of the newly rising Syndicalist movement, and was imprisoned for his connection with the ' Don't Shoot 1' manifesto to soldiers.

Manna, a name given to a variety of natural products. Many people suppose the M. caten by the Israelites in the wilderness to have been Lecanora esculenta, an edible lichen which is removed from rocks by wind and carried long distances. According to others, it is the gummy by a sacch punctree,

occus. tured The M. or flowering ash (Fraxinus ornus) exudes a sweet substance containing mannite, a sugar commonly found in many forms of vegetable life. In Calabria the M. gatherers make incisions in the tree boles to stimulate the exudation.

Mannargudi, a tn. in the dist. of Tanjore, Madras Presidency, India, 22 m. E.S.E. of Tanjore. Its pagoda

is noteworthy. Pop. 20,000.
Manners, Lord John James Robert, seventh Duke of Rutland (1818-1906), a statesman, entered parliament as a Tory in 1841, and became one of the Young England party. He figures in Coningsby as Lord Henry Sidney, and in other of his leader's novels.

1852, and again in 1858, he was First

thé

Commissioner of Works, with a seat | malting, and its trade consists in timin the cabinet, in the Derby administration; and under Disraeli (1874-80) and Salisbury (1885-86) he held the office of Postmaster-General. In Salisbury's second ministry (1886-92) he was Chancellor of the duchy of Lancaster. In 1888 he succeeded to the dukedom.

Mannheim, a tn. of Baden, Germany, situated at the junction of the Neckar and the Rhine, 46 m. S.S.W. of Frankfort. The town is the Neckar and the Hune, 46 m. S.S.W. of Frankfort. The town is low-lying, being protected by a dike, and the plan of its streets is characterised by its extreme regularity. The chief buildings of interest are the palace, public library, observatory, and national theatre. The trade of the tarm is corridorable being faciliar. the town is considerable, being facilitated by a good harbour. The principal manufactures are chemicals,

but suffered many vicissitudes di the Thirty Years' War. It during the Thirty Years' War. I annexed to Baden in 1802. was Pop. 193,600.

Manning, Henry Edward (1808-92), cardinal and theologian, born at Totteridge, Herts, and educated at Harrow and Oxford, where he became notable as an eloquent preacher and as one of the ablest of the Trac-tarian party. He was rector of Woollavington-cum-Graffham, 1833, and archdeacon of Chichester, 1840. In 1851 he entered the Church of Rome, in which he attached himself to the Ultramontane party. More even than Newman he was the leading spirit of the Roman Church in England. His writings consist of sermons, of which he published several volumes before his secession from the Church of England, and controversial works, including Petri Privilegium, 1871; The Vatican Decrees, 1875, in answer to Gladstone's Vaticanism; and The Eternal Priesthood, 1883. He became

Roman Catholic archbishop of West-minster, 1865, and cardinal, 1875. Manning (or Mannyng), Robert, or Robert of Brunne (c. 1264-1338), a poet, was a native of Bourne, Lin-coinshire. He wrote Handlung Synne, a translation of the Manuel des Pechiez of William of Wadington, and The Chronicle of England, which is a new version in octosyllable rhyme of Wace's Brut d'Angleterre plus a translation of the French rhymning chronicle of Peter Langtoft. M.'s work is of great linguistic importance. and did much to further the adoption of the Midland dialect as the acknow-

ber, corn, and malt. Pop. 900

Mannite, or Manna Sugar, C. H. (OH), the chief constituent of manna, an exudation from the manna ash tree, Fraxinus ornus. M. also occurs in onions, brown sea-weed, and many other plants. It is a crystalline substance readily soluble in water and alcohol. M. is obtained from manna by extraction with alcohol and subsequent crystallisation. It was formerly used as an aperient in Europe, and is still employed for this purpose

in S. America.

Mannlicher, Ferdinand (1848-1904),

Mannlicher, Ferdinand (1848-1904), an inventor, born at Mainz, and was for a number of years a railway en-gineer. He is the inventor of many improvements in fire-arms, among

them a repeating rifle.

Manns, Sir Augustus (1825-1907), a musical conductor, born at Stolzen-berg, near Stettin. His first lessons in music were received from a village teacher, and these led eventually to his joining Gungl's orchestra, Berlin, from which he was transferred to be conductor at Kroll's Garden in the same town, which post he held until 1851. Three years later he became sub-conductor of the Crystal Palace band, and in the following year conductor.

Man-of-War Bird, or Frigate Bird

(Tachypetes aquilus), a natatorial bird with an enormous expansion of wings and great powers of flight.

Manometer, an instrument for determining the pressure of gases en-closed in a vessel. The simplest form consists of a long straight tube dipping into a box containing mer-cury. The pressure of the gas to gauged is communicated through an opening in the box to the surface of the mercury, and the upper end of the tube is open to the atmosphere. If the pressure of the enclosed gas is greater than that of the atmosphere. the mercury is forced up the tube. A pressure of two atmospheres forces the mercury upwards to a distance of 30 in. above the level of the mercury in the box, so that this form of M. cannot be used for great pressures. Another form used for small pressures consists of a bent tube open at both ends and containing a quantity of mercury in the bend. When the pressure of the enclosed gas is com-municated to one surface of the mercury, the mercury in the other limb rises or falls as the pressure is greater or less than that of the atmosphere. If, for instance, the mercury sinks h in. in one limb, it will rise h in. in ledged literary instrument.

Manningtree, a market in. of Essex, will be 2h in. The pressure of the enother. Stour, about 8 m. from closed gas will therefore be equal to Colchester. The chief industry is one atmosphere, plus the weight of

sures a U-tube closed at one end is em-ployed. The open end communicates with the enclosed gas and the closed end is furnished with a scale. If the pressure of the enclosed gas is equal to that of the atmosphere, the mercury will be at the same level in both limbs. If the pressure rises above that of the atmosphere, the mercury in the open limb sinks, and that in the closed limb rises, thus compressing the air in the closed limb. Suppose H to represent the length of the air column at atmospheric pressure, and h the length at the pressure of the gas; then the pressure of the air column \mathbf{H} The difference in height of the two mercury columns is 2(H-h). therefore the pressure of the enclosed gas must be equal to the weight of a column of mercury whose length is $2(H-h)+\frac{H}{h}$ atmospheres.

feudal noble holding or the Ling is generally found to consist of several holdings called maneria or Ms., which for the most part are conterminus with the vills, towns, or villages. A M. appears to have denoted such district of a great personage as he kept in his own hands for the abode and use of his family, and hence this district was also termed demesne (or terræ dominicales, from Lat. domus, home) lands, in contradistinction to the tenemental lands, which the lord distributed among his tenants. In the domain there was generally a mansion or manor-house, which was occupied by the owner of the manerium or by his bailiff (for a number of the greater barons held numerous M not therefore personally

not therefore personally all), together with a cert of arable and meadow land in scattered strips. (See as to common field system under LAND.) Quite early in the English land-holding system the English land-holding system the great barons granted out smaller Ms. by way of subinfeudation, to be held of themselves, the seignory of such lesser lords being termed an honour. These inferior lords in their turn carved out of their estates yet smaller estates, and the practice would doubtless have been followed out almost to infinity but for that provision in Magna Charta, designed in the interest of the greater barons, who found that they were being deprived of their feudal profits, which enforced on lesser barons the obligation to retain sufficient land to answer their over- tion as a poet to Coplas por la muerle

2h in. of mercury. For greater pres- lords' demands. Later the statute of sures a 11-tube closed at one end is em- | Quia Emptoris (see under DE DONIS) forbade subinfeudation altogether by the provision that the grantee should always hold not of the grantor but of the chief lord of the fee (see ESTATE). All Ms. existing at the present day were, therefore, stereotyped from the time of that statute (Edward I.). The reservation of mineral rights, exi-guous quit rents from M. freeholders. and fines on admission to copyhold tenants are now the principal remaining benefits attaching to a M.

France, in the 28 m. from Aix.

> valley of the Durance, and has sulphurous springs and beds of lignite and bitumen. Pop. 5500.

Manrent, in Scots history, a kind of bondage whereby free persons be-came the bondmen or followers of their patrons and defenders. equivalent to homage, or the attendance and personal service connoted by homage. The term is a corruption of manred (A.-S. manraeden, homage, from mann, vassal, and raeden, condition). The band or bond of M. is picturesquely defined by Skene: 'It is a bande of manrent, quhen (when) ony person promises to serve ane vther (other), in sik sorte (in such a way), that he sall be friend to all his friends, and foe to all his foes, against all deadly.

Manresa, a tn. of Spain in the prov. of Barcelona, on the R. Cardoner, 41 m. N.W. of Barcelona. It has important iron foundries and manufs. of cotton and woollen goods, ribbons, hats, paper, soap, and spirits. The collegiate church of Santa Maria is a fine example of Spanish Gothic, and contains a fine 15th-century Floren-

tine altar-frontal. Pop. 24,000. Manrique, Gomez (c. 1412-91), a Spanish poet and soldier, born at Alvaro de Luna

es, modelled on and satires as leed, he appears anish dramatist.

Among his works are Representación del nascimiento de Nuestro Señor, a play in the Passion, and two momas, or interludes. His poems were first printed in 1885, and edited by An-tonio Paz y Melia.

Manrique, Jorge (1440-78), a Spanish poet and soldier, probably born at Paredes de Nava. He owes his reputa. 75

his father, which, with its sublime expression, ranks among the first

poems of the world.

poems of the world.
Mans, Le, a tn. of France, cap. of
the dept. of Sarthe, 112 m. S.W. of
Paris. It has a cathedral, originally founded by St. Julian, which contains the tomb of Berengaria, queen
of Richard Cœur de Lion. There is
also the hôtel de ville, built in 1756 on
the site of the former castle of the the site of the former castle of the counts of Maine, and the prefecture (1760), which occupies the site of the monastery of La Couture, and contains the library and the communal archives. Le M. is the seat of a bishopric dating from the 3rd century, and is an important railway centre. The chief industries are the state manuf. of tobacco, the preparation of preserved vegetables, fish, etc., tanning, hemp-spinning, and the manuf. of coarse ironmongery, machines, watches, and clocks, stained glass windows, railway carriages, and cloth. Pop. 69,361.

Mansard (or Mansart), (1598-1666), a French archite at Paris. He made use of a pecunal

kind of roof, which had been used 100 sind of roof, which had been used 100 years before by Lescot, but which henceforth was called the Mansard roof. Among his buildings, the chief are the Château de Maisons-sur-Seine, and the churches of Sainte-Marie de Chaillot, the Minimes de la Place Royale, and the Visitation de Sainte-Marie in the Rue Saint-Antoine.

Mansard (or Mansart), Jules Har-(1648-1708), an douin architect, n in nephew of the Paris. principal the

including t Maison de Saint-Cyr, the Grand Trianon, and the dome of the Hôtel des Invalides. He also built the Château de Clagny for Madame de Montespan.

Mansard Roof, a curbed roof which provides for habitable rooms within it. It is common in the modern châteaux and public buildings in France.

Mansarowar, see Manasarowar.

Manse, a name given in Scotland to the house of the minister of the Established Church. Every minister of a rural parish is entitled to his M.: if there is not one existing, the landed proprietors in the parish are bound to build one. He is also entitled to a stable or barn as part of his dwelling-house, and his M., when built, must be kept in repair by the boritors, but there was after the M.

de su padre, an elegy on the death of | During the time occupied by rebuilding or repairs, the minister is entitled to an allowance from the heritors as manse-rent. By statute the M. must be near to the church.

Mansel, Henry Longueville (1820-71), a metaphysician, born in Northamptonshire. He was educated at Mer-chant Taylors' School and St. John's College, Oxford, and took holy orders in 1844, soon proving himself to be a strong Tory and a high churchman. He was Bampton lecturer in 1858, and was engaged in controversy with Maurice, Goldwin Smith, and Mill; select preacher, 1860-62 and 1869-71, and professor of ecclesiastical history, 1866-68. In 1868 he delivered a course of lectures upon The Gnostic Heresies, and in the same year was appointed to the deanery of St. Paul's. Among to the deanery of St. Paul S. Amough his works are: Phrontisterion, 1850; Prolegomena Logica, 1851; The Limits of Demonstrative Science, 1853; and Man's Conception of Elernity, 1854. He also contributed to The Speaker's Adds to Faith, and

the lectures of Sir . of whom he was a ronower.

Mansergh, James (1834~1905), a civil engineer, born at Lancaster. He was engaged in Brazil (1855-59) as engineer to the contractor for the Dom Pedro II, railway, and helped in the construction of the Mid-Wales and Llandilo and Carmarthen railways (1862-65). But he made a special study of water-works, drainage, and sewerage, and the Elan Valley water scheme for Birningham, opened by King Edward Willer opened by King Edward VII. and Queen Alexandra in 1904, is among his achievements in this direction.

Mansfeld, Ernst Graf von (1585-1626), illegitimate son of Pierre Ernst, and one of the greatest generals of the Thirty Years' War. First fought under the Duke of Savoy against the Spaniards. Sent to help the Bohemian rebels, he took Pilsen and compelled Count Bucquoi to and compened Count Bucquor to evacuate Bohemia, but afterwards induced the Bohemians to make Frederick, the elector palatine, their king. The latter being defeated by the imperial troops, M. for a long time held out at Pilsen and Thabor, time held out at Plisen and Thabor, but yielding to superior numbers he retreated to the Palatinate (1621). The following year he ravaged Alsace and, joining forces with Frederick, defied both the Bavarians and the Hessians. Entering Belgium and uniting with the Duke of Bunswick, he defeated the Sunnivels at Flaurick. he defeated the Spaniards at Fleurus and penetrated into Westphalia, heritors, but these may, after the M. pillaging so many towns that the inis 'made sufficient,' apply to the presbytery to declare it free, when the incumbent must do the repairs. | 1626, at the head of a motley army pillaging so many towns that the in-habitants of the province offered him

he re-entered Germany, but sustain- Gordon riots, 1780, and he retired ing defeat at the hands of Wallen- from office in 1788. He did much stein, he retreated to Brandenburg. Giving up the command against Austria he elected to try his fortunes in Venice, but died at Vranovitz.

Mansfeld, Peter Ernst I., Count (1517-1604), a governor of Luxemburg, served Philip II. of Spain at St. Quentin and in the Netherlands. He went to the aid of the king of France with a body of troops when he was fighting against the Huguenots, and was present at the battle of Moncontour (1569).

Mansfield: 1. A market to. and municipal bor. of Nottinghamshire, England, on the Mann, situated in the midst of an important coal district on the outskirts of Sherwood There are manufs, of lace, thread, boots, and machinery, also iron foundries and breweries, and to the N. there are quarries of limestone and sandstone. It was formerly the residence of the Mercian kings, but now the manor belongs to the Duke of Portland. Pop. (1911) 36,897. 2. A city and co. seat of Richland co., Ohio, U.S.A., 66 m. S.W. of Cleve-land. It is the seat of the Ohio state reformatory, and has an extensive trade with the surrounding agricul-tural country. Its manufs. consist of

'lari of (1705-93), a judge, born at Scone in Perthshire. He was educated at Westminster School, and at Christ Church, Oxford, and having his degree of M.A. was called that in 1730. He was made counsel and solicitor-general to Lord Wilmington's government, 1742. entering parliament as member for Boroughbridge, and in 1743-44 proved himself the ablest defender of the government in the House of Com-mons. In 1754 he became attorneygeneral to the Duke of Newcastle's administration, which he defended against the attacks of Pitt, and in 1756 was called to the degree of serjeant-at-law, sworn in as lord chief justice of the king's bench, and reated Baron M. in the county of Nottingham. He incurred in 1767 some hatred by discountenancing some prosecutions under the penal law of 1700 which made celebration of mass by a Roman Catholic priest punishable by imprisonment for life, and still further increased his unpopularity by his conduct in the case of Wilkes in 1768, and by his directions to the jury in three cases of tions to the jury in three cases of seditious libel arising out of the publication and sale of Junius's Letter to the king in 1770. His house Frequently an indictment (q.v.) for was sacked and burnt during the

to improve mercantile law, the law of evidence, and the procedure of courts, and as a parliamentary debater was second only to Chatham. became Earl of Mansfield in 1776.

Mansfield College, a theological in-stitution opened in 1889 in Oxford, to give instruction to students who wish to become Congregational ministers. It is a non-university college, and is devoted solely to the study of theology.

Mansfield Woodhouse, a tn. of Nottinghamshire, 11 m. N. of Mansfield. Two Roman villas were discovered in the neighbourhood in 1786. (1911) 4800.

Mansion House, an oblong building in the centre of the City of London, at the end of Cheapside. It is the official residence of the Lord Mayor of London, and was finished about 1750. It has an interesting hexastyle Corinthian portico.

Manslaughter is the killing o another: (1) On a 'sudden affray, i.e. without premeditated design; e.g. two persons are drinking together at a bar and one commences an argument, in the course of which the other, suddenly infuriated, picks up a heavy pewter pot and kills him with a blow on the head; or (2) through culpable negligence. The first class obviously closely approximates to murder. If e.g. the slayer were carrying weapons that fact of itself might well afford evidence of a deliberate intent to seek But if he merely nicked up le, which to hand,

his act would in all probability amount only to M. The second class forms the bulk of charges of M. An endless variety of negligent acts causing death may amount to M.: e.g. a labourer without cautions,

highway peculiar person, not believing in the efficacy of doctors, allows his child to die of disease when it might easily have been cured; a boxer, knowing his opponent to be in extremis, gives him a 'knock-out' blow and kills him. But negligence, however gross, cannot be the basis of a charge of murder, though if the jury believe the facts show design and not negligence at all, the case would be otherwise. For example, in the case of the 'peculiar' parent above, if there were evidence that the parent would benefit pecuni-

doubtful about the circumstances.
In Scots law, the term M. is not used.
The cardinal division of criminal homicide is into murder and culpable homicide. The taking of another's life without intention of killing, but in circumstances which display such a complete and wicked recklessness as 'to imply a disposition deprayed enough to be wholly regardless of consequences,' is murder. Under 'cul-wick extended over Italian are consequences,' is murder. Under 'cul-wick extended over Italian are consequences,' is murder. consequences, is murder. Under 'cul-pable homicide' are included all sorts of homicide which are neither

casual nor justifiable. M'pro

34 r of Damietta branch of the Nile. M. dates from the crusades, and marks the spot where the Crusaders were finally overcome (Mansura means 'the victorious'). M. manufs. sail cloth, cottons, linens, and crepe. Pop. 40,000.

Mant, Richard (1776-1848), an Euglish divine, born at Southampton. He was elected to a fellowship at Oriel the chancellor's prize with his essay On Commerce, 1799. He became vicar of Coggeshall, Essex, 1810, rector of St. Botolph's, 1815, and bishop of Killaloe and Kilfenaragh, 1820, being translated to Down and Connar, 1823. He published poetical, works, theological. and historical

among which may be mentioned History of the Church of Ireland, 1840.
Mantegna, Andrea (1431-1506), a painter, born in Vicenza. He studied in the school of Squarcione, who entered him in the guild of painters before he was eleven, but afterwards came under the influence of Bellini, whose daughter he married. His first whose dadighter lie that lett. His has picture, a Madonna, was produced when he was seventeen, and in 1452 he executed a fresco for the church of S. Antonio in Padua, and ir altar piece of St. Luke as

Saints for the church of S. But his reputation was conf

his frescoes in the chapel of b. Chape foro, in the church of S. Agostino degli Eremitani, which are still reranded as examples of his best work. In 1459 he went to Verona, and painted an altar-piece for the church of S. Zeno, and in 1460 took up his abode at Mantua at the invitation of the Marquis Ludovico Gonzaga. Proceeding to Rome in 1488 he painted cecding to Rome in 1488 he painted a scries of frescoes in the chapel of the Belvedere in the Vatican, among which were the noted 'Baptism of Christ,' but all were destroyed by Plus VI. He returned to Mantua in 1490 to continue the 'Triumph of Casar,' his masterpiece, a series of nine pictures each 9 ft. square, in the product of the product of the square, and the product of the square, and the product of th Casar, his masterpiece, a series of Manticore, a mythical creature, nine pictures each 9 ft. square, used in heraldic devices, having the painted in tempera, now in Hampton head of a man, the body of a lion, a

for M. where the prosecution are Court. Another notable picture of his

Mantell, Gideon Algernon (1790-1852), a geologist, born in Lewes, Cissex. He was articled to a surgeon

his native town, finally becoming s partner, and was very successful in his profession, but all his spare time was devoted to the study of natural history and geology, and he subsequently gave up surgery. He made a collection of fossils, which he afterwards sold to the British Museum, and published many geo-

Museum, and published many goological works, among which may be
mentioned The Wonders of Geology.
He was made F.R.S. in 1825.

Mantes, a tn. of France in dept.
Seine-et-Oise, 22½ m. N.W. of Versailles, on the l. b. of the Seine.
Burnt in 1087 in retaliation for a
wittelism of the French king Philip I wittiesm of the French king, Philip I., by William the Conqueror, who sus-tained a mortal wound there. It be-longed for some time to Charles the Bad, but in 1364 was secured for Charles I. by Bertrand du Guesclin. Notable for the ruins of the church of St. Maclou. Manufs. musical instru-ments and incubators. Pop. 8500. Manteuffel Edwin Hans Karl

Manteuffel, Edwin Hans Karl, Freiherr von (1809-85), a Prussian general and diplomatist. Appointed chief of the military cabinet in 1857 and adjutant-general of the King of Prussia in 1861. In 1864 he served in the Danish War as a lieutenant-

was made civil r of Schleswig. Iolstein on the

ans, who then of Gastein by appealing to the Germanic Confederation. On the latter deciding against Prussia, M., cooperating with Falkenstein, crossed the Elbe and invaded Hanover. Having humbled the Hanoverian army M. was placed in sole command against the united forces of Southern Germany. After this he went as envoy to St. Petersburg to advance Prussian interests in Germany. In the Franco-German War (1870-71) he forced Bazaine to capitulate at Metz, de-feated Farre at Amiens, and forced Clenchant to retreat into Switzerland.

Mantinea, or Mantineia (Martíreia). one of the most ancient cities of Arcadia, situated on the borders of Argolis, S. of Orchomenus. It was one of the most powerful towns of Arcadia, and continued to be so down to the time of the Achean League. It was the scene of five great battles, the first of which was fought in 418 and resulted in a defeat of the combined Argives, Mantineians, and Athenians, by the Lacedemonians. The second took place about 367, when Spartans were defeated and Epaminondas slain, the third in 295, when Demetrius Poliorcetes defeated Archidamus and the Spartans; the fourth in 242, when Aratus and the Acheans defeated and killed Agis at the head of the Spartans; and the fifth in 207, which again resulted in the defeat of the Lacedæmonians under the tyrant Machamdas, who fell in the battle.

Mantiqueira, Serra da, a granitic mountain chain in S.E. Brazil running parallel to the coast. Its highest Itatiaia-assu (10,000 ft.), point is which is the loftiest summit of Brazil.

Mantis, a genus of the family of orthopterous insects Mantidæ. first pair of limbs are large, powerful, and peculiarly modified, and are used to seize and maim insects for food. The praying M. (M. religiosa) occurs in Southern Europe, and is so called from the devotional attitude of the creature as it lies in wait for its prey. Many of the species have developed colour protection to a wonderful degree, so as to be hardly distinguishable from the leaves or flowers of the plant which they frequent. Their pugnacity and deadly armament have caused them to be kept and matched against one another like gamecocks.

Mantissa, see Logaritims.
Mantling, or Lambrequin, in herdry, is an appendage hanging aldry, is an appendage hanging down from the helmet and passing behind the escutcheon. In British heraldry, the sovereign's M. is of gold, lined with ermine; that of peers, of crimson velvet, lined with ermine.

Man-trap. Formerly, Ms. were set on land and in houses without let or hindrance. But the offences against the Persons Act, 1861, punishes with penal servitude the act of 'setting engines calculated to destroy human life or inflict grievous bodily harm. and specifically mentions spring runs and Ms. among such offending devices. Any person who comes into possession of any land on which Ms. are set, was commissioned to paint a series of and knowingly allows them to remain Homi. there, is equally punishable. cide resulting from such traps is man-But the Act expressly slaughter.

scorpion's sting, and porcupine's saves the right of any one to set a M., spring-gum or any other 'engine' in his dwelling-house between sunset and sunrise for the purpose of pro-

tecting the house. Mantua, or Mantova, the tn. of, stands on an island about 5 m. in circumference, in the middle of a lagoon formed by the Mineio. It is well built, with wide streets and squaresand contains many handsome struc-tures. The principal buildings are the cathedral, one of the finest in Italy; the church of Sant-Andrea; the churches of San-Maurizio and Santhe Sebastiano: house of Giulio Romano, whose works as a painter and an architect form the greatest glory of the city; the church of Santa-Barbara, rich in paintings; the public library of 80,000 volumes, and the museum, in which is a valuable sculpture gallery; the ducal palace, an old vast irregular structure, partly re-built by Giulio Romano, which contains some good paintings. The chief industries are tanning, printing, brewing, and iron working. Pop. 32,000.

Manu (Sanskrit, man), or Manu Vaivasvata ('the sun-born'), the seventh of a class of fourteen demiurgic beings, each of whom presides over a period of M. He is regarded as the progenitor of the pre-sent race, and was founder and first Ayodhye. king of To him ascribed the so-called Laws of Manu, as well as a work on Vedic ritual.

Manuel, Francisco (1734-1819), Portuguese poet, born at Lisbon. was the writer of odes and various other kinds of poetry, but was espe-cially famous for his lyrics. He was compelled to flee from Portugal to escape the Inquisition, and died at Versailles.

Manuel, Don Juan (1282-1347), a Spanish writer and statesman, was connected with the royal house of Castile and Leon, and on the death of Ferdinand IV. (1312) acted as regent of the kingdom during the minority of Alphonso XI. As a writer he occupies an important place in the literature of the 14th century. His chief work is El . of fifty tak

he also wr well as sev

Libro infinido, a treatise on education and Las Mancias del amor.

Manuel, Nicolas (1484 - 1530), a Swiss portrait painter, poet, and re-former, born at Bern. He studied pictures for the monastery of his native city. This work, the Dance of Death, was in the style of Holbein. but only copies of it exist, and another

Manus

Mysterics, and popular songs.
Manures, or Fertilisers, those substances, organic or inorganic, by which the fertility of the soil is maintained. The great bulk of the tissues of plants is built up from natural sources that are apparently inexhaustible in most parts of the world. These are water and carbonic acid gas, but in addition, mineral substances and nitrogen are essential to the growth of plants, and their presence in the soil in minimum proportions is necessary for the production of satisfactory crops. In a state of nature plant food is accumulated with the decay of animal and vegetable substances, and also to some extent by the action of leguminous plants in combination with certain micro-organisms of the soil. draw upon the atmospheric nitrogen in the air and fix it in the soil. Farmyard M. is the chief fertiliser in general use. It is composed of the excreta of animals and straw, peat-moss, or other litter. The fertilising value of animal excreta varies considerably, not only with the species of animals, but with their age and condition. Young growing stock use up a greater proportion of those parts of the food cent. which have manurial properties than which i mature animals with the exception of ture of milking cows. It foll that beyond a certain the food the greater value of the M. Lir

decorticated cotton cake, for example, are rich in nitrogenous food, and their use makes richer M. than starchy foods, such as wheat, barley, oats, maize, and rice. If poorly nitrogenous food has to be much used on account of considerations of price, compensation to the soil is called for. The condition of farmyard M. has much bearing upon its value; fresher it is, the more slowly its con-stituents become available as plant food. On this account, old and wellrotted dung is applied to light, porous soils, so that the crop can make use of it with the minimum of loss. In the storage of farmyard M. much loss of the liquid, which contains the most soluble and therefore the most im-mediately valuable fertilising elements, is avoided if an underground storage tank can be provided for its collection. It is often altogether that of its mechanical effect.

Lir

excellent work, 'Solomon's Idolatry,' most satisfactory way of storing is to has also perished. In his latter years pile the M. on a bed of dry earth, M. took an active part in public covering it occasionally with a thin oil, and finally with a thick The possibilities of artificial

irst revealed by Liebig, who treating bones with sulphuric acid, the result being what is known as 'dissolved bones.' 'Dissolved bone compounds 'usually contain, in addition, shoddy, ground leather, dried blood, fish guano, ctc., and though each of these and similar materials have fertilising value, the compound may be of doubtful utility. Among the chief artificial fertilisers in use are the following: nitrate of soda, obtained mainly from the W. coast of S. America, is one of the most concentrated forms of nitrogenous M., and being very soluble is generally used as a top-dressing. Even more concentrated is sulphate of ammonia, but though freely soluble of anniona, but though freely solution is slower in action. It is a refuse product of gas works. The presence of this salt in soot gives it its chief manurial value. Nitrate of lime and calcium cyanamide are now made from atmospheric nitrogen, and their

by treating finely ground mineral phosphates with sulphuric acid, is the cheapest source of soluble phosphate. The percentage of soluble phosphates varies from about 25 to about 75 per cent. Basic slag is a phosphatic M., which is a by-product in the manufac-

80 per eve of eh, and ut 85 per cent. of the total phosphate is soluble in a 2 per cent. solution of citric acid, it is a very efficacious M. Basic slag also contains lime and, like other calcareous substances, is of great value in reducing plant foods to a condition in which they are available for assimilation. The chief potash M. are sulphate of potash (kainit), a natural German salt which contains about 12½ per cent. of potash and muriate of potash. The effect of potash M. varies greatly with different soils, and experimental trial is desirable to see whether they are needed in a particular case; but usually potatoes pay for a light applica-tion before the crop is planted.

Manus, or Hand, may be defined as a special fore-limb termination distinguished by the faculty which it possesses of opposing the pollex or thumb to the other fingers, so that small articles may be grasped. wasted on farms, most of the solid possession of two hands was sufficient residue having little more value than to classify man as a distinct order, to classify man as a distinct order, Bimana. It may be thought that The Bimana.

reality the former lack the intricacy and delicacy of manipulation possessed by the latter, and in the case of the lower animals the fore-hands are needed for locomotion and support.

Bones .- The hand possesses twentyseven bones, viz. eight carpels in the wrist, roughly arranged in two rows of four each; five metacarpels, forming the bony support of the palm; fourteen phalanges of the fingers, the thumb containing two bones and the

others three each.

Movements.—The muscular and nervous connections of the hand are of great intricacy. The several bones are strongly bound together, each bone being joined to some three or four others. The turning movements are characteristic of the fore-limb and of the human species. The turning of the palm downwards is termed pronation (see ARM), while supination, which is most highly developed in man, is the turning of the palm upwards as for receiving objects. The movements are brought about by the pronator and supinator muscles assisted by the biceps muscle. greater power possessed in supination has established the thread direction in such objects as screws, gimlets, etc. The flexing of the wrist and hand upon the forearm is brought about by the combined action of three muscles, while the flexing of each finger is caused by two muscles lying along the inner side of the digit, the deeper flexor which is attached to the first phalange passing through a perforation in the superficial flexor, which is attached to the second phalange—a most ingenious contrivance.

Deformities (congenital) are fairly common in some families, and are marked by excess or lack of digits. The joints are frequently the seat of

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tion is more rare, but may be acquired. The term 'hand' has a variety of uses in current speech, and is used technically as equalling four inches in horse measurement.

Manuscripts. In ancient Greece and Rome waxen tablets in codex form were used for correspondence, legal documents, accounts, or other permanent MSS. A codex contained either one or more leaves of wood coated with black wax and held together by rings. A few Greek tablets

four-handed animals (monkeys, etc.) entire collection is specified in the are better equipped than man, but in Corpus Inscript. Latinarum, vol. iii.). But the commonest material for MSS. of ancient Greece and Rome was papyrus, and this substance continued to be used in Europe even after the introduction of vellum, and in Egypt till the middle of the 10th century. Papyri vary in size and quality, those of Homer in the British Museum being about 10 in. in width and the hieratic charters 8 in. The

> ages for Latin literature. Extant examples are the Sermons and Epistles of St. Augustine (6th and 7th centuries), the Antiquities of Josephus (7th century), the MSS. of Hilary (6th century), and the register of the church of Ravenna (10th century). The Merovingian kings used it for state documents, and a few papal bulls on the same material have been preserved. The greater durability of vellum ensured its complete substitution for papyrus in the later middle ages, and skins were pre-eminently the material for the literature of the Christian Church. Vellum was, however, frequently used as early as the 4th century, though paleographers are unable to agree on the date when MSS, were first inscribed in gold or purple-stained silver on vellum. Excellent examples of these are the Latin Psalter of St. Germain (570 A.D.) and Codex Argenteus, containing Ulfila's translation of the Gothic Gospels (6th century), the Evangelistarium of Charlemagne (8th century). The use of paper for MSS. was introduced to Europe from the East through the Arabs and Moors, an early extant example of a MS. on oriental paper being a charter of Frederic II. to the nuns of Goess (1228).

Early MSS, are not distinguishable from books. The codex or caudex and the papyrus roll (Gk. \$1\text{\beta}\text{\eta} lime tree commonly used for MSS.) were equally MSS. and books. It may be said that the modern distinction dates rather from the abandonment of the roll form for the familiar book-shape in the middle ages. the earliest MSS, the text was written continuously across the face of the leaf, though the columnar form was more usual in papyri. For palimpsest (i.e. MSS. scraped so as to allow the leaves to be used again), see Palimp. SEST. Consult Thompson's Greck and found in Egypt are to be seen in Latin Palacography; Facsimiles of the British Museum, extant Latin MSS. and Inscriptions. edited by codices being far more numerous (the Bond, Thompson, and Warner.

Manutius Aldus, or Manuzio Aldo nifying native or indigenous), the (c. 1450-1515), an Italian printer and name given to themselves by the inauthor, born at Sermoneta, in the papal states. He spent some time in the study of the classics, subsequently becoming tutor to the princes of Carpi, one of whom, Alberta, sup-plied him with the money for starting his printing press. At Venice in 1490 he produced editions of Museus's Hero and Leander and the Greek Psalter. These were followed by the of Aristotle, Aristophanes, Thucydides, Sophoeles, Herodotus, Xenophon, Euripides, Demosthenes, Plato, and Pindar, as well as some editions of Latin authors. He is famous as having been the first to print Greek books and to use italics on a large scale, and was the founder of the Aldine Press.

Manych, or Manytch, a riv. bed of Russia, between the Don and the Caspian Sea. It is dry for a great part

of the year.

Manzanares: 1. A tn. of Spain in the prov. of Ciudad Real, 70 m. from Toledo. It has manufactures of soap, cloth, and pottery, and an active trade in wheat, wine, and saffron. Pop. 11,500. 2. A riv. of Spain in New Castile, with a length of about 50 m. It flows from the Pico de Peñalara past Madrid to the Jarama.

Manzanita, or Arctostaphylos man-zanita, a beautiful Californian tree of the order Ericaceæ, allied to the British bearberries. It varies from 20 to 60 ft. in height, and its wood

resembles mahogany

Manzoni, Alessandro (1784-1873), Italian novelist, born at Milan in 1806, at the age of twenty-one, his essay on poetry entitled Fersi Sciolti was inspired by the death of Carlo Imbonati, an intimate family friend; and in 1810 his sacred lyrics met with general admiration. Several tragedies, written with much spirit and originality, attracted notice not only in Italy but in France and Germany, and foremost among the warm admirers and favourable critics of M. stood Goethe. The work, however, by which M. attained to European fame is his historical novel, I Promessi Sposi, a Milanese story of the 17th century (3 vols., Milan, 1827). M.'s ode to Napoleon (1823) is noble in thought and diction. The poet's later years were spent in strict and devout seclusion, the free tendency of his early opinions having been succeeded by a stringent conformity to the doctrines of Rome. An edition of M.'s works, in 5 vols., was published by Tommaseo in Florence (1828-29).

Mao, the cap. of Kanem dist., 31 m. N.E. of Lake Chad, Shari ter., French Congo, Africa.

Maoris (a New Zealand word sig-

habitants of New Zealand. The M., in common with the natives generally of Polynesia, belong to the Malay race or family of mankind. Though calling themselves indigenous, the M. have a traditito the

the isla ago.

This island has been identified with Hawaii and Savaii in the Pacific The skin of the M. is in general of an olive-brown colour, but there are some in whom the shade is much lighter, while in others it is darker. In statute they almost equal Englishmen, and have a powerful muscular development. They have well-shaped, intellectual heads, and their features, when not tattooed, might almost be taken for European. Few of them have beards or whiskers. The women are of less stature than the men in proportion, and are in other respects inferior to them. Both sexes used to practise tattooing, a custom which has been almost abandoned since the conversion of the M. to Christianity. Another very remarkable custom among the M, was that of the taboo, by which the priest could make certain persons and things sacred and inviolate. Cannibalism, a much more heinous and abominable custom, was universally prevalent among the M. before their conversion to Christianity. The last instance of it occurred in the year 1843. Infanticide, which also pre-vailed largely among them in their days of heathenism, is now univer-sally abolished, and the same is the case with slavery and polygamy. The wars of the M. were formerly carried on with spears and clubs of various kinds manufactured from stone and wood. Their most remarkable weapon was a spear of nephrite, which descended among the principal chiefs from father to son, and was regarded as a kind of sceptre, and even a sacred object. The language of the M., like generally, Seven

ily. are spoken among them. The language is represented as rich and sonorous, well adapted for poetical expression. The M. have an abundance of metrical proverbs, legends, and traditions, of which a collection has been made by Sir George Grey (Maori Sayings and Proverbs, 1857). They are also pas-sionately attached to music and song. More than five-sixths of the M. are now converted to Christianity. Since the native wars, which lasted from 1843 to 1869, the M. have enjoyed complete peace, but they steadily declined in numbers from about 100,000 to 40,000 in 1901. decade, however, they have increased, and their number may now be put

at about 48,000.

Map (or Mapes), Walter (fl. 1200), a mediæval author and wit, probably a native of Herefordshire. He studied under Girard la Pucelle at Paris, and on his return to England was made clerk of the royal household, being frequently employed as a justice itinerant. He was with Henry II, at Limoges in 1173, and in Anjou in 1183. and in 1179 was sent to the Lateran Council at Rome. In 1176 he received the prebend of Mapesbury at St. Paul's, becoming before 1186 chan-cellor of Lincoln, and in 1197 he was made Archdeacon of Oxford. wrote De Nugis Curialium, a collection of legends and anecdotes from his native country. This book gives some information of the Templars and Hospitallers, and also contains a sketch of the English court and kings from the reign of William II, to his Besides this, it gives an account of M.'s life. He probably was also author of some of the satirical Goliardic verse as well as of a large part of Lancelot, and specimens of his wit are preserved by Giraldus Cambrensis.

Maple, or Acer, a genus of deciduous trees of the order Sapindacea, with opposite, stalked, palmately veined leaves of great decorative value, and racemes of green flowers followed by two-winged samaras. The common or small-leaved M. (A. campestre), has the racemes erect, and is the only British species, but the greater M., or sycamore (A. pseudo-platanus) with pendulous racemes is now perfectly naturalised. Of the numerous N. American species, the sugar M. (A. saccharinum) is one of the most valuable. M. wood has many uses.

Maps. A map is the delineation of a part or the whole of the spherical surface of the earth on a plane, and represents the relative position of the countries, mountain ranges, rivers, towns, etc. This representation is effected by means of projection, owing to the fact that it is extremely difficult to make a plan on a plane surface which indicates the positions

and dimensions of : Various modes o

the globular, the conical, and Mercator's. In the first three the plane of projection is supposed to pass through the centre of the earth and the kind of projection depends upon the position of the eye. In the orthographic the eye is at an infinite distance from

During the last parallel and perpendicular, y have increased, mode, though representing accurately the centre of the hemisphere, is no good for the parts near the circumference, which in delineation become crowded together, and is therefore seldom used except for M. of the moon. In the second, or stereographic, the eye is supposed to be on the surface of the sphere opposite to the one to be delineated, in such a position that if the globe were transparent, the eye would see the opposite concave surface. This again is not much employed, because it contracts the centre of the M. The third, or globular, the one generally adopted is a modification of the two. In this projection the eye is supposed to be vertically over the centre of the plane of projection, and at a distance from the surface of the sphere equal to the sine of 45° of one of its great circles. All meridians and parallels in this projection are, in reality, elliptical curves; but as they are very nearly circular arcs, they are generally represented as such. The fourth, or conical projection, is used for representations of parts of the earth, for a portion of a sphere between two parallels not very far distant from each other corresponds very nearly to a like conical zone; hence small portions of the carth can be delineated more accurately by conical projection. In all four of these projections, the direction of the N. and S., or of the E. and W., is represented by a curved line, so that the course of a vessel on such a M. would always be laid down by a curve, which could only be described by continually laying off from the meridian a line at an angle equal to that made with the meridian by the point of the compass at which the ship was sailing. If a vessel were to steer in a direct N.E. course by one of the previous projections, she would describe a spiral. The mariner, there-fore, requires a M. which will enable him to steer his course by straight lines, and this is supplied by Mercator's chart, a cylindrical projection in which all the meridians are straight the repulled to the equator, and a the equator, and a the equator. At seem to be resisted from very early times, hough the ancient Greeks been devised, of v the orthographic, the stereographic, inventor, traces have been found of

cartography in Egypt even 1000 years before that date. These were, of course, very crude, but as time went on they gradually improved in character, in 310 B.c. attempts at projection were made by Diewarchus of Messana, and Ptolemy (fl. 126-61 A.D.) the centre of the earth, so that all drew M. according to the stereorays of light proceeding from it are graphic projection. Years later the : 2 2

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much towards improving cartography. and Sebastian Cabot (1544) produced his M. of the world. These develop-ments have steadily increased, until in our own times excellent M. are available for all classes.

Maqui, or Aristotelia Maqui, an evergreen shrub with handsome foliage and green flowers, followed by black berries, used in Chili as a

febrifuge

Mar, the name of an old Scotch district in the S. of the co. of Aberdeen. It lies between the rivers Don and Dee, and is divided into Cromar,

and Dee, and is divided into Cromar, Braemar, and Midmar.

Mar, John, eleventh Earl of (1675-1752), famed as the leader of the 1715 rebellion. He continually changed sides politically, being in turn Whig and Tory as it was advantageous to him. As a Whig he assisted in the union of Scotland and England. Because of his continual change of sides cause of his continual change of sides he became known as 'Bobbing John.' After the union with Scotland, and on the overthrow of the Whig govern-ment, he again became a Tory, and was made Secretary of State for Scot-land. Later, on the accession of George I., he again endeavoured to keep his position by changing sides, but failing on this occasion to obtain favour, he lost his office. This so favour, he lost his office. This so angered and disgraced him that he returned to Scotland and started the rebellion at Braemar, and soon had a large and enthusiastic following. His fickle character, however, again showed itself in his hesitancy, and his long delay in the Highlands enabled the Duke of Argyll to check him when he finally advanced at the battle of Stirling. He then gradually retreated and escaped with the Pretender to France. He was a favourite of the Pretender, and when arrested in Geneva, he purchased freedom and the possession of his estates by betraying James. He never afterwards held the confidence of anybody, but continued in his treachery by still professing to be Jacobite, and con-tinuing to betray secrets to the Eng-

lish government.

Marabou, or Leptoptilus marabou,
a scavenging bird of the stork family, somewhat larger than the adjutant (L. argala), and found in Central Africa. The vent feathers, also called M., were formerly in very considerable demand for millinery and also

for scarves.

Germans, Italians, and Dutch, did spiritual superiority over the Moslem negroes of Barbary.

Marabrun, a Gascon poet troubadour of the 12th century. According to tradition, he was a found-ling discovered and brought up by Audric del Vilar, and was assassinated by an enemy. His most famous poems are in praise of the crusades:

Aujatz de Chan, 1135; Pax in nomine Domini, 1137

Maracaibo, a fortified city of Vene-

zuela, S. America, situated on a sandy plain on the W. shore of the strait which connects the Lake of Maracaibo with the gulf of the same name. It is the chief town of a province of the same name. It is a handsome town, with a hot but healthy climate. There

is trade in sugar, coffee, cocoa, and rubber. Pop. 50,000.

Maracaibo, Lake and Gulf. The Lake of M., in the N. of Venezuela, is about 100 m. in length and 70 m. in breadth. A bar at its mouth prohibits the entrance of large vessels. hibits the entrance of large vessels, It is connected with the gulf of the same name by a strait 20 m. in length, and from 5 to 10 m. in breadth. The gulf is a wide inlet of the Caribbean Sea, 150 m. from E. to W., and about 75 m. from N. to S. Maraeci, Lodovic (1612-1700), an Orientalist, born at Lucca, Italy. He became professor of Arabie at Rome

became professor of Arabic at Rome, where he gained the favour of Pope Innocent XI. He published an edition of the Koran, with notes, and a Life of Mahomet.

Maragha, a city of Azerbaijan, Persia, 50 m. S. of Tabriz, enclosed by walls. The tomb of Genghis Khan is here, and an observatory was founded on an adjacent mountain by big coronders. his grandson, Hulagu Khan. M. is noted for its fine marble. Pop. 15,000.

Maragogipe, a tn. of Brazil in Bahia state, at the head of All Saints' Bay, 25 m. S.W. of Cachoeira. A variety of coffee is named after it. Pop. about

15,000.

Marajo, an island in S. America, in the Atlantic Ocean, off the N. coast of Brazil, 180 m. long and 120 m. broad. Surface is marshy in parts.

Maramaros, Sziget, a tn. in Hun-gary, cap. of co. Maramaros, 215 m. E.N.E. of Budapest on the Theiss at the foot of the Carpathians. It is a centre of the lumber trade, and the depôt of salt mined in the vicinity.

Pop. 18,000.

Maranhão, or Maranham, a mari-time prov. of N.E. Brazil. A large part of the surface is covered by forests, but the river valleys and coastal districts are very fertile, profor scarves.

Marabouts, a class of religious saints or sorcerers among the Berbers of N. Africa, held in high esteem. They held Spain and Morocco for a considerable period. The Almohads put an end to their temporal dominion, but they continued to exercise de Maranhão, is a prosperous, well- ing part in the struggle between the built city on an island of the same Jacobins and the Girondists. He name. Area 177,569 sq. m. Pop. called himself the martyr of libert; Area 177,569 sq. m. Pop. 499,308.

Marano di Napoli, a com. in the prov. of Naples, Italy, 5 m. N.W. of Naples. Pop. 8600.

Maranon, see AMAZON.
Marans, the chief th. of CharenteInférieure, France, 18 m. from La
Rochelle, on the Sevre Niortaise. It is in the midst of marshy land inter-sected by canals. It is a scaport, and has an important trade in grain and cattle. Pop. 8013.

Maranta, a genus of perennials (order Scitaminacem), with tuberous or creeping rhizomes, from which arrowroot is obtained, and ornamental leaves, green above and grey, purple, or rose below.

Maraschino, a liqueur, distilled from a small black variety of wild cherry found chiefly round Zara in Dalmatia and Corsica. An inferior

variety is made in Germany.

Marash, the chief tn. of the saniak of Marash, in the Aleppo vilayet, Turkey in Asia, E. of the Jihan R., at the foot of Mt. Taurus. There is a large trade in Kurd carpets and embroideries. The name 'Marasi' is found in Assyrian inscriptions, and the town, under the name of Ger manicia-Marasion, played an im-gortant part in Byzantine history. Pop. 50,000.

Marasmius, a genus of fungi, characterised among its allies by assuming the original form when moistened after being dried. M. oreades, the champignon or fairy-ring fungus, is delicately flavoured and wholesome.

Marat, Jean Paul (1743-93), a French revolutionary leader, son of Jean Paul M., a native of Cagliari. In 1759 M. went to Bordeaux for two years to study medicine. Bordeaux he went to Paris, from there to Holland, and finally to London, where he practised his profession as a physician; his special study being diseases of the eyes. His other chief interest was the study of electricity. In 1773 he wrote his Philosophical Essay on Man, and in 1774 he published The Chains of Slavery. In 1775 he was made an M.D. of St. Andrews. He was now famous as a Andrews. He was now iamous as a skilled physician, and the year 1777 saw him as the brevet physician to the Comte d'Artois guards. In 1789 he published his first journal, L'Ami du Peuple, and gradually left his scientific life and studies for a political career. In 1789 he was arrested and suffered a month's imprisonment. In lan 1790 he fled to London, but re-Jan. 1790 he fled to London, but returned to Paris and hid in foul cellars, where no contracted a loathsome and small copper coin, in value about painful skin disease. He took a lead-centimes (\$\frac{1}{4}\), and a silver coin (\$\frac{1}{4}\).

and after being tried and acquitted by the

came: Paris declar

de la one of those who were implacable towards the king, and demanded his death for the good of the people. The skin disease from which le suffered was so painful that only by lying in warm baths could be ob-While sitting in his tain relief. bath writing his journal, a young woman, Charlotte Corday (q.v.), demanded admittance. The girl was Girondist and an enthusiast, and believing him to be a monster of bloodthirstiness, she stabled him through the heart, convinced she had rid France of a terrible enemy. Sa

THE FRANCE OF A CEPTION ENGINEER. S. B. Bax, J. P. Marat, 1900; A. Vermorel, J. P. Marat, 1880.

Maratea, a tn. of the Neapolitan province of Basilicata, situated on the slope of a mountain in the midt of a lovely and salubrious country.

of a lovely and salubrious country.

Pop. 8000.

Marathas, some of ther c. Marathan, and the more st, about 20 m. N.E. of Athens. — Lnowin mythology for the overthand of the monstrous bull by Theseus, and in history for the victory of the Athensa. Militades, over the Persians, 490 B.C. Marathan Bane, the pame gives lied.

Marathon Race, the name given to the Olympic games held every four years at the capital of the country chosen to hold them. The name is also used for similar races held elsewhere, at the Stadium, etc. The race is usually over a course of 25 m. Maratti. Carlo (1625-1713),

Maratti, Italian painter and engraver, born at Camerano. His Madonnas were particularly numerous and admired. He was entrusted by Clement XI, with the charge and restoration of the frescoes of Raphael in the Vatican. and was commissioned by Louis XIV, to paint his celebrated picture of 'Daphore,' Fuseli considered his 'Bathsheba viewed by David' his greatest work. He died at Rome.

Marattia, a genus of large tropical ferns, the fleshy crowns of which are cooked and eaten. The feather-shaped fronds are 8 to 12 ft. long.

Maravedi, an old Spanish coin in use until the end of the 18th century. Originally the name was used for Moorish coins, both silver and gold, but after 1494 it was only used for

ant by a causeway of 1911) 1251.

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(d. 1585), an English rganist and musical composer. He ook a leading part in a society ormed at Windsor to promote the pread of Reform doctrines, and arrowly escaped the stake. He comlosed the first book of chants for use n the Anglican Church, Booke of

John Praier Noted, 1550.

Marbella, a tn. in the prov. of Jalaga, Spain, on the Mediterranean, 0 m. S.W. of Malaga. It has iron nines and foundries in the neighbour-100d, and exports salt fish, figs, and vine. Pop. 10,000.

Marble, a crystalline form of limetone. The term is usually a hose forms of limestone or vhich are sufficiently compac

high polish. A characteristic M. oneists of amountag of uniform size

When broken ı multitude of

listening facets, owing to the granules preaking along their rhombohedral cleavage planes. The colour is usually white, but markings of many hues and patterns are produced by the presence of metallic salts, either as constituents of the original limestone, or as later

The metamestones. been brought about by id press

by the nood of igneous intr

hat streaks or bands of impurities in he original limestone frequently take on peculiar shapes. The economic mportance of Ms. is derived from the adaptability of the finer forms to uses in statuary, and of the other forms to more or less ornamental architecture. Many fine Ms. were known to the ancients, of which Pentelic and Parian Ms. are the most famous. The was obtained from Mt. ormer. Pentelleus in Attica, and served as he material for the Elgin Ms., now edged in the British Museum. Parlan M. was quarried in the Isle of Paros; the Venus de Medici was carved in stone from this source. The M. used by mediæval and modern sculptors is hat found in the neighbourhood of Carrara in Italy. Architectural Ms. are quarried from the Devonian system in Devon, while the mountain imestone of Yorkshire and Derbyshire yields a stone capable of a high

Marazion, a fishing vil. in the St. ship of Essex co., Massachusetts, ves parliamentary div. of Cornwall, U.S.A., 16 m. N.E. of Boston, on The Cornwall of Massachusetts Bay. It has a good the Cornwall of Massachusetts Bay. It has a good harbour, and some shipbuilding in harbour, and some shipbuilding in-dustry. It was settled in 1629 by English immigrants. Pop. (1910) 7001.

Marburg: 1. A town in Styria. Austria, 41 m. S. of Graz by rail. It has a large trade in leather, boots and

sparkling wines
tn. in the pr.
Prussia, cap. of the dist. of Cassel, on
the R. Lahn, 60 m. N. of Frankfort by rail. The chief buildings are the Elisabethankirche, built in 1235-83, to contain the tomb of St. Elizabeth of Hungary; the university, founded in 1527. There are manufactured in the state of the sta of pottery, leather, iron goods and surgical instruments. Pop. 21,869.

Marcantonio, or Marcantonio Raithe 15th

Bologna. oldsmith

and engraver at Bologna, under Francia. From 1510 until the taking of Rome by the Spaniards (1527) he lived there, engraving many of the best pictures of Raphael and his pupils.

Marcaria, a com. in the prov. of Mantua, Italy, 13 m. S.W. of Mantua. Pop. 8500.

Marcasite, a mineral consisting of iron disulphide (FeS.). It is thus chemically identical with iron pyrites. and was formerly looked upon as a variety of pyrites. It has a different

structure, developing crystals, while pyrites the cubic system. M.

pressure is the resu.

brown, has a brilliant masses. Much crush
masses. Much crush
iness of 6 to 61, and a wisting have often taken place, so specific gravity of 48. It is found in more recent formations than pyrites, and like that mineral is liable to be converted into limonite. It is mined at Littmitz near Carlsbad, and is used for the preparation of sulphur and ferrous sulphate.

Marceau, François Séverin Des-graviers (1769-96), a French general, born at Chartres. He took part in the attack on the Bastille (1791), in the defence of Verdun (1792), and in the Vendée, and commanded at Fleurus (1794). He was in command of the first division of the army of the Rhine, and fought at Lahn and at Altenkirchen where he was mortally wounded (Sept. 1796) wounded (Sept. 1796).

Marcello, Benedetto (1686-1739), an Italian musical composer and author, born at Venice. While holding various official positions he devoted himself to music and poetry. His master-plece is the Estro poetico-armonico (1724), a musical setting of the first fifty psalms as paraphrased into Marklehead, a scaport and town- Italian by G. Giustiniani. He also

wrote cantatas and an opera. His pamphlet, Il Teatro alla moda, was a brilliant satire on contemporary opera.

Marcellus, Marcus Claudius: 1. A Roman general (c. 268-208 B.c.) dur-ing the second Punic War. In 222 B.c.

the Insubrian Gauls, whose spoils he afterwards dedicated as spolia opima in the temple of Jupiter Feretrius. This was the third and last time in Roman history that this offering was made. In 214 he began a famous siege of Syracuse, which he finally took in 212. On the capture of the city Archimedes, who directed the engines which defended the town, was put to death by the Roman soldiers. In 208 he was killed in a skirmish with Hannibal near Venusia. 2. Another Roman of the same name (c. 43-23 B.C.), was the son of C. Marcellus and Octavia, sister of Augustus. In 25 B.C. he was adopted by the emperor and married his daughter, Julia. 23 B.C. Marcellus died suddenly at Baire, supposedly poisoned by Livia. to the grief of Augustus.

Marcellus, the name of two popes: Marcellus I. succeeded Marcellinus probably in May 308. He imposed such severe penances upon all Christians who had recanted under the recent persecutions that he was banished by popular demand in 309.

Marcellus II. succeeded Julius III.

in 1555, but died the same year. Cardinal Cervini he presided over the Council of Trent. Palestrina dedicated

a famous Mass to him.

Marcet, Jane (1769-1858), an English authoress, born at Geneva. She spent her early life there, marrying a Genevan doctor, but later settled in London. She published Conversations on Chemistry; Conversations in Political Economy, and other similar Children.

March, Roman year, and the third according to our present calendar, consists of 31 days. It was considered as the 31 days. It was considered as the Hainaut, Belgium, 2 m. first month of the year in England Charleroi, on the Sambre. until the change of style in 1752, and found here. Pop. 20,000. the legal year was reckoned from the 25th March. T

it Hlyd monai Hraed monath.

is a proverb which represents M. as

borrowing three days from April.

March, in music is, as its name indicates, a musical composition intended to regulate the step of marching troops. Written in common time and not too slow, it should have the soldier natural.

March, a tn. in the Islo of Ely, Cambridgeshire, with a market on Friday. It is situated on the Nen, 81 m. N. of London. It manufactures a considerable variety of farm tools and has engineering works. (1911) 8403.

March, Agnes, Countess of, see

BLACK AGNES.

March, Ausias (d. c. 1459), a Cata-lan poet, born in Valencia. His poems which show the influence of Petrarch were written in the dialect of Catalonia, and testify to the vivid imagination of the writer. His chief works are: Cants d'Amor; Cants de Mort, and others may be found in various editions, among them that of F. P. Briz (Barcelona), 1864. Marchantia, the typical genus of a tribe and order of Liverworts, which

frequent damp places.

Marchena, a tn. in the prov. of Seville, Spain, 30 m. E. of Seville. It is an old Moorish town, some of the fortifications still remaining. also has sulphur springs. Pop. 12,500.

Marches, a compartimento of Italy, comprising the provs, of Pesaro c Urbino, Macerata, Ascoli-Piceno, and Ancona. This region produces wine, silk, cereals. Before the year 1860 these states were included in the territory of the pope. Ar Pop. about 1,100,000. Area 3750 sq. m.

Marches, Riding the, see BOUNDS,

BEATING THE.

Marchetti, Filippo (1831-1902), an Italian composer, a native of Bolog-nola. In 1881 he became director of the St. Cecilia Academy, Rome. His chief works are: Romeo e Giulietta, 1865; produced in Milan, Ruy Blas, 1869, and Gustave Wasa, 1875.
Marchfold, a plain in Austria, stretching in a northerly direction

from Vienna, and in a westerly one from the March. This was the scene manuals; also Stories for Very Little of the defeat of Ottokar of Bavaria by the first month of the also of the battles of Aspern and ar, and the third according Wagram fought in Napoleon's time.

Marchienne - au - Pont, a tn. in m. w. οſ Coal is

Marchin, a tn. of Belgium, prov. of 16 m. E. of Namur. Pop.

6000.

cianise, a tn. in the prov. of Caserta, Italy, 13 m. N.E. of Naples, with which it is connected by rail. Pop. 13,000.

Marcianus (A.D. 450-457), Emperor of the East, born about 391. He entered the army at an early age, and served under Aspar, whom he accomrhythm sufficiently clear and well panied in his campaign against marked to make the march of the Genseric, king of the Vandals in Africa in 431, and under Ardaburius.

He seems to have acquired great and England across h of the Channel. In 1901 signals were rethe English

> ď u

and Egypt (452), and quelled dis-turbances on the Armenian frontier (456), he also refused payment of tribute to Attila, reformed the finances, and repeopled the devastated districts.

Marcianus, Ælius, a Roman jurist, margianus, renus, a Rollian Julies, who wrote after the death of Septimus Severus. His chief works are sixteen books of Institutiones; two books on Appellationes; and five books on Appellationes; entitled Regularia.

Marcinelle, a tn. in Hainaut, Belgium, 24 m. S.E. of Mons. It manufs.

steel goods, and has collieries. Pop. 16.000.

Marcion, founder of the Marcionites, Marcon, Johnson of the Marconness, an ascetic Gnostic sect, was the son of a bishop of Sinope in Pontus. Being excommunicated by his father, on account of his heretical opinions, he went to Rome about 140 a.D. He made several anxious efforts to obtain a reconciliation with the Catholic After his final excommunication, he associated himself with the Syrian Gnostic Cerdon. The gospel of Christ, according to him, consisted in free love of the Good; the Mosaic system, with its motives of rewards and punishments, was mere legality (See GNOSTICS). M. entirely rejected the Old Testament; and of the New Testament, all but a few Epistles and the Gospel of St. Luke.

Marcomanni, a powerful league of borderers belonging to the Germanic tribe, who dwelt between the Danube and the Rhine after Cresar's death. Under their king, Marobodus, they made themselves masters of the kingof Bojenheim, the present Bohemia. They subsequently made incursions into Roman territory dur-

ing the reign of Marcus Aurelius, until 180 A.D., when peace was purchased by Commodus.

Marconi, Guglielmo (b. 1874), Hon.
D.Sc., Oxford; and Hon. LL.D., Glasgow, 1904; an electrical engineer, born at Bologna, Italy, on April 25 (hismother being an Irish woman), and married in 1905 to Beatrice O'Brien, daughter of the fourteenth Baron Inchiquin. He was educated first at Leghorn, Italy, under Professor Rosa, and then at Bologna University. After a series of experiments in wireless telegraphy at Bologna, he conducted a successful test in England hands of the Brygians, he was com-

and formally inaugurated between Canada (Cape Breton) and England, when the Governor-General of Canada and Sr. M. transmitted messages to King Edward VII. Communications were next established between Cane Cod, Massachusetts, and Cornwall. With the extension of M.'s system of wireless telegraphy to the ocean liners the first ocean daily newspaper, the Cunard Daily Bulletin, was inaugu-rated on R.M.S. Campania in 1994. His system is now used by Lloyds and the principal shipping companies in England and abroad, as well as being adopted by the British and Italian admiralties. The principal warships of these navies are now fully watships of these farthes are now tully equipped, as well as ships of the mercantile marine. Public wireless services have been established between Bari (Italy) and Antivari (Moutenegro), and between England and America. and America. M. has received many honours. In 1902 he was created by the King of Italy Commander of the Order of St. Maurice and St. Lazarus. and received the Grand Cross of the Order of the Crown of Italy. He re-ceived the freedom of the city of Rome in 1903, and was decorated with the Order of St. Anne by the Tsar of Russia. In 1909 he was awarded half the Nobel Prize for Physics, Stockholm.

Marco Polo, ste Polo, Marco.
Marcq-en-Barœul, a tn. in the dept.
of Nord, France, 3 m. N. of Lille.
Pop. 11,500.
Marcus, Aurelius, see Aurelius,
Marcus Antonius.

Marcy, Mount, sec ADIRONDACK

Marczaly, a com. of Hungary, 98 m.

S.W. of Budapest, near the E. shore of Lake Balaton. Pop. 44,000.
Mardin, a tn. in the vilayet of Diarbekir, Asiatic Turkey, 54 m.
S.E. of Diarbekir. It has a picturesque position on the side of a hill, and is the headquarters of an American mission. Pop. 25,000.

Mardonius (Gk. Μαρδόνιος), a Persian general, the son of Gobryas. He was sent by Darius in 492 B.c. to com-plete the settlement of Ionia, and to punish Eretria and Athens for their share in the war, but being unfortun-ate enough to lose his fleet off Mt. Athos and to suffer a defeat at the

l to return to Asia, and was cen-by the king who deprived him command. On the succession

chief instigators of the expedition against Greece. After the defeat of Salamis he persuaded Xerxes to return home, and being left in command of 300,000 men, sent a proposal to the Athenians to withdraw from the Greek confederacy, and on their refusal occupied the city and reduced it to ruins. He next marched against the Greek force which was collected at the Isthmus of Corinth, and following it to Platea, was defeated and slain in 479 B.C.

Mareb, a tn. of Yemen, Arabia. 80 m. N.E. of Sana. It is a town of great antiquity, its original name

being Saba.

Marce Loch, in Ross-shire, Scotland, a large and beautiful lake, 21 m. long by 1 to 2 m. broad. It is surrounded by gorgeous mountain gorgeous scenery, and studded with islands. It is drained by the R. Ewe in Loch Ewe.

Maremma, a marshy region of Central Italy, in the S. part of Tuscany, extending along the coast of the

Tyrrhenian Sea. Formerly it was densely populated, but it is now practically all desert land.

Marengo: 1. A vil. of Piedmont, Italy, situated about 2 m. S.E. of Alessandria. It was the scene of Napoleon's victory over the Austrians in 1800. 2. A tn. of Algeria, 38 m. W.S.W. of Algiers. Pop. (com.) 6000.

Marennes, a seaport of France in the dept. of Charente-Inférieure, 25 m. S. of La Rochelle. It has a large production of oysters, and salt-works. Pop. (com.) about 6500.

Marenzio, Luca (c. 1555-99), an Italian composer, born at Coccaglio, close to Brescia. He occupied for time the position of maestro to Car dinal d'Este, after which he went t Poland and was employed by Sirismund III. About the year 1595, however, he returned to Rome and became organist at the pontifical His greatest successes in chapel. music were due to his having perfected the madrigal.

Marcotis, Lake, see BIRKET-EL-MARIUT.

Mare's-tail, or *Hippuris*, a genus glabrous aquatic herbs (order aloragaceæ). The only British Haloragacere). species, H. vulgaris, occurs in ditches and stagmant water, and has an un-branched jointed stem about 9 in. high, bearing whorls of six, eight, or ten linear leaves with hard tips. Minute inconspicuous flowers occur in the axils of the upper leaves. Ms. are sometimes planted beside ornamental waters.

Marouil, Arnaut do, see ARNAUT DE

MAREUIL

of Xerxes in 485, however, he was French physiologist, a native of again in favour, and was one of the Beaune, Côte-d'Or. About 1869 he hecame a professor of the Collège de France in Paris, and was also a member of the Institut and of the Academy of Medicine. He spent a great deal of his time on the study of physiclogical movements. Among his works are: Du mouvement dans les Fonctions de la vie, 1868; La Machine animale, locomotion terrestre cl aérienne, 1873; Physiologie du mouvement le vol des Oiseaux, 1890.

Margaree, a post vil. of Canada, Inverness co., Cape Breton Is., 30 m. N.N.W. of Sydney. It is at the mouth of a harbour in Margaree R. in the

Gulf of St. Lawrence. Pop. 3000. Margaret, St. (d. 1093), a sister of Edgar Atheling. On the accession of William the Conqueror to the English throne Edgar Atheling, his mother, and his sisters Margaret and Christina, went to Scotland, and M. became the wife of Malcolm III. of Scotland. She did much to reform the manners and customs of the people, and was devoted to her husband in his work. Malcolm, enraged at the seizure of Carlisle by the English, Iaid siege to Alnwick (1093), and was de-feated and slain. M. died when she heard the news of her husband's death.

Margaret (1353-1412), Qucon of Denmark, Norway, and Sweden, and Denmark, Norway, and Sweden, and daughter of Valdemar IV. of Denmark. At the age of ten she was married to King Haakon VI. of Norway, and on his death in 1380 the whole of Norway was placed in her hands. Her son, Olaf, whose election as king of Denmark she had procured, died seven years later, thus

fter she defeated

king, and obtained possession of the throne of Sweden. She combined Denmark, Sweden, and Norway into one king-dom, and was called the Semiramis

of the North. ret of Anjou (1430-82).
r of René the Good of titular king of Naples, Margaret daughter Anjou, married to Henry VI. of England in She became regent for her husband because of his imbecility, and her power being contested by the Duke of York and claimant to the throne, led to the Wars of the Roses. Although successful at some of the battles, she was in the end defeated at Tewkesbury and taken prisoner with her son, who was killed, M. herself being imprisoned for four years. See Oman's Political History of England (vol. iv.), 1906. Margaret of Nayarre (1492-1549)

AREUL. (also known as Margaret of Au-Marey, Etienne Jules (1830-1904), a gouleme), a sister of Francis I. of

France; married to the Duke of stomach finely cut up aids in separat-Alençon in 1509 and to Henry ing the fat from other tissue. The titular king of Navarre, in 1527. She never reigned at Navarre, but kept a court at Nérac. afforded protection to the Protestant reformers, and was a patroness of art and literature. A collection of her poems appeared in 1547. See Freer, Life of Marguerile d'Angouleme, 1895.

Margaret of Parma (1522-86), an illegitimate daughter of the Emperor Charles V., first married to Alexander, Duke of Florence (1533) and then to Ottavio Farnese, Duke of Parma (1542). From 1559-67 she was regent of the Netherlands.

Margaret of Scotland (c. 1425-45), eldest child of James I. of Scotland and wife of the Dauphin Loui wards Louis XI., whom she at Tours in 1436. He dislik neglected her, and she dev good deal of her time to poetry, with the standard of the standard wards to the standard wards with the standard wards wards with the standard wards writing rondeaux, and such like. She is said to have been a pupil of Alain

Chartier. See Jusserand's English

Chartier. See Jusserand's English Essays from a French Pen, 1898.
Margaret of Valois (1553-1615), a daughter of Henry II. of France and Catherine of Medicl, married in 1572 to Henry of Navarre. On the massacre of St. Bartholomew, Henry fled from court and was not rejoined by his wife for six years. Later, she again abandoned him, and was finally divorced in 1599. Her Ilemoirs were sublished in 1628. published in 1628.

Margaretsville, a seaport tn. of Nova Scotia, on the Bay of Fundy, 8 m. N.E. of Wilmot. Pop. 1500. Margaret Tudor (1489 - 1541), a daughter of Henry VII., and wife of James IV. of Scotland, whom she married at Edinburgh in 1503, and the whole of her subsequent life was a series of political intrigues of one kind or another. She had three a series of political intrigues of one kind or another. She had three children by James, two sons, one of whom, later, became James V. of Scotland, and a daughter Margaret, mother of Lord Darnley. Her great-grandson, James VI. of Scotland, succeeded Elizabeth as James I. of Excland England.

Margaric Acid, a fatty acid pre-pared artificially. Its formula is C₁H₃, COOH, so that it stands be-tween palmitic and stearic acids in the fatty acid series. The compound is not found in nature, but the name was formerly given to a substance which is now known to be a mixture of palmitic and stearic acids.

Margarine, artificial butter. There are various methods of preparing butter substitutes, though the initial stages are generally the same. Beef suct of good quality is freed from

ing the fat from other tissue. The fat is allowed to cool to 24° C. and is then subjected to considerable pressure, with the result that it separates into solid stearin and liquid oleomargarine. The latter cools to a mass, having many of the characteristics of butter, but it is usually mixed with peanut or other oils to effect a softer consistency and with anatto for pur-poses of colouring. Most of the M. poses of colouring. Most of the M. manufactured is a wholesome and nutritious substitute for butter. See ADULTERATION.

Margarita Island, in the Caribbean Sea, belonging to Venezuela, 45 m. long and from 5 to 20 m. broad. The name derived from the pearls

antities. ous por-but the maize.

cotton, coffee, sugar, etc. It was dis-covered by Columbus in 1498. Cap. Asuncion. Pop. about 40,000. Margaritone d'Arezzo (c. 1215-92),

a painter, sculptor, and architect, born at D'Arezzo, celebrated in his day. The best known of his paintings day. The best known of his parameter is his 'Madonna, with Scenes from the Lives of the Saints' now in the National Gallery. He also painted a 'Coronation of the Virgin' in the See Vasari, Liverpool Institute. Lives of the Painters.

Margary, Augustus Raymond (1846-75), an Anglo-Indian traveller, son of an English officer, born at Belgaum, Bombay, and educated in France and at University College, London. In 1867 he went to China as a studentinterpreter and travelled across S.W. China to meet a Christian mission from Burma, being murdered by the Chinese at Manwein on returning.

Margate, a scaport and municipal bor., in the Isle of Thanet, Kent, a few miles from the N. Foreland, and one of the most popular seaside resorts of England, 74 m. E. by S. of London. It has bracing air, excellent sands, and bathing facilities, and a fine pier and jetty. Pop. (1911)

27,086.
Margaux, a tn. of France in the Bordeaux is 15 m. N.W. Pop. 2000.

Margay (Fclis tigrina), a species of tiger-cat about the same size as the domestic cat, native of the forests of Brazil and Guiana.

Marggrabowa, a tn. of E. Prussia, 44 m. S.S.E. of Gumbinnen, on Lake Oletzko. Pop. 5366. Marggraf, Andreas Sigismund (1709-

82), a German chemist, born at Berlin studied chemistry at Berlin and membrane by melting out the fat; Strassburg, and medicine at Halle. the addition of a quantity of sheep's In 1738 he was elected to the Berlin Academy of Sciences, in 1760 being simpler phraseology the outlay beappointed director of the physics class. He is noted for his discovery of sugar in beetroot. His papers were collected into two volumes of trusted with the care of a mark, Chymische Schriften (1761-67).

Margilan, or Marghilan, a tn. in Russian Central Asia, cap. of Fergana prov., 160 m. S.E. of Tashkend. It is in a healthy position, surrounded by to local tradi-

Alexander of

industries are silkworm culture, and the manuf. of silk, woollen, and camel-wool cloths.

Pop. 43,000. Margin: 1. In business generally.-(a) In a transaction in which money is advanced on security the difference between the amount advanced on the security and the market value of such security. As regards trustees mort-gaging the property of their beneilciaries the effect of the Trustee Act 1893, is that a trustee must not lend more than two-thirds of the surveyor's valuation even if the surveyor advises that a greater proportion may be advanced. If he does he will be liable for any resulting loss; but this statutory precaution relates not to the nature, but apparently only to the nature, but apparently only to the Hegelianism, viz. pantheism mas value of the security, and hence a querading as Christianity, and wrote trustee w

speculativ factory, o probably

(c) In 'cover' transactions (see or speculation upon COVER), through outside stockbrokers, the speculator deposits a certain M. or sum to cover prospective differences in price, which cover is said to run

off if the difference turns out to be greater than he anticipated.

2. In economics.—In the Ricardian theory of rent that land which will just pay for cultivation if it be let at a nominal rent, is said to be the M. of cultivation, and in the absence of exceptional circumstances land below that M. cannot be cultivated with profit. In regard to labour generally, there is a 'final' or marginal disability when the increment of utility from the given employment just balances the increment of pain balances the increment of pain (Jevons). In other words if the physical and mental disadvantages just outweigh the reward, no one will be found regards

used by grave's Economy,

cured by a unit of money, or in spondance, 1887.

or frontier (margravate), who stood immediately under the king or em-

as th 12th

and later a M. held the same rank

and face: An here one same tank
as a prince of the empire.

Marguerite, a general term for a
number of daisy-like flowers. The
common ox-eyedaisy (Chrysanthemum
leucanthemum) and the grand ox-eye (C. uglinosum) are often so called; but the name specially applies to C. frutescens, the Paris daisy, with fine white or yellow flowers. The blue M. is Agathwa coelestis.

Marheineke, Philipp Conrad (1780-1846), a German theologian, born at Hildesheim, Hanover. He became university preacher at Erlangen in 1804, and professor in 1806. He was also professor at Heidelberg in 1807 and professor and preacher at Berlin in 1811, where he became acquainted with Hegel, Schleiermacher, and Neander. He represented orthodox viz. pantheism i ethics, and

orks include istlichen Dog-Geschichte

of the proportion to value advanced. des Christlichen Moral; System des (b) In banking practice the M. de-Catholicismus; Geschichte der Deut System des

> On his death she became regent for their daughter, Isabella II. In 1840 she was forced to abdicate in consequence of Carlist disturbances, and fled to France, where she lived for the greater part of her life.

> Maria Christina (b. 1858), consort of Alfonso XII. of Spain, and born of the Austrian royal family. She acted as queen-regent during the minority of her son, who became king under the title of Alfonso XIII. in 1902. Maria Louisa (1791-1847), daughter

> of Francis I. of Austria, and second wife of Napoleon Bonaparte, whom she married in 1810 on the divorce of Josephine. She had one son, called the king of Rome, with whom she lived at Schönbrun whilst Napoleon was in exile. In 1814 she was appointed ruler of the duchies of Parma, Piacenza and Guastalla by the Allies. See Life by Helfert, 1873; Mémoires by Mme. Durand, 1885; and Corre-

Mariana, Juan de (1536-1623), a ished, the national revenues greatly Spanish historian, born in Talavera. increased, and the burdens were He entered the order of Jesuits and subsequently taught in the schools of Subsequency taught in the schools of this order in Rome, Sielly, Paris, and Toledo. As a writer he appears to have incurred odium with different parties. His treatise, De Rege et Regis Institutione, was held to favour the doctrine of tyrannicide; De Ponsider of the Alexander of the Alexander of the Regis Institution of deribus et Mensuris was aimed at the malversations of the Duke of Lerma, this caused him to be imprisoned; De Morte et Immortalitate was censured by the ecclesiastics; Historice de Rebus Hispania (20 vols.), his masterpiece, was written in Latin (1592); a Spanish edition appeared in 1609. Consult Garzon's El Padre Mariana, 1888.

Marianna, an episcopal tn. of Minas Geraes, Brazil, 170 m. N.W. of Rio de

Janeiro. Pop. 6000.

Marianne Islands, see LADRONES.
Mariano Comense, a com. in the
prov. of Como, Italy, 8 m. S.E. of
Como; has an important silk industry. Pop. 5126.

Marianthus, a genus of shrubs (order Pittosporacew), sometimes grown on trellises in greenhouses. They bear showy panicles of red or greyish-blue flowers.

Marianus Scotus: 1. (1028-82), Irish chronicler. He became a Benedictine monk, entered the monastery of St. monk, entered the monastery of St. Martin at Cologne in 1058, passing his later life at the abbeys of Fulda and of Mainz. He left a Chronicon Universale, first printed at Basle in 1559. 2. (d. 1088) A famous copyist and abbot of St. Peter's, Regensburg. Maria Theresa (1717-80), Empress of Germany, the daughter of the Emperor Karl VI., was born at Vienna. By the Pragmatic Sanction (q.v.) her father appointed her heir to his hereditary thrones. In 1736 she married Francis Stephen, Grand

married Francis Stephen, Grand Duke of Tuscany, to whom she gave an equal share in the government an equal share in the government when she became queen of Hungary, when she became queen of Hungary, of Bohemia, and archduchess of Austria, on the death of her father, Oct. 21, 1740. Prussia, Bavaria, Saxony, Naples, and Sardinia, stirred up by France, put forward claims to portions of her dominions, chiefly founded on the extinction of the male line of the house of Hapsburg. The War of the Austrian Succession, after lasting more than seven years, terminated in her favour by the peace of Aix-la-Chapelle in 1743. She lost only Silesia and Glatz, and the duchies of Parma, Piacenza, and Guastalla, whilst, on the other hand,

increased, and the burdens were diminished. She found in Kaunitz (q.v.) a minister possessed of the wisdom and energy requisite for the conduct of affairs, and in him she placed almost unlimited confidence. The Seven Years' War (q.v.) between Austria and Prussia again reduced Austria to a state of great exhaustion. She joined with Russia and Prussia in the partition of a third part of Poland (1772). Galicia and Lodomeria were added to her dominions at this time. She also compelled the Porte to give up Bukowina to her (1777). The Bayarian War of Succession ended in her acquisition of the Innthal, but led to the formation of the Furstenbund (q.v.). Consuit J. F. Bright's Maria Theresa, 1897.

Mariazell, a tn. of Styria, Austria, 60 m. S.W. of Vienna. Its shrine of the Virgin is the object of a popular pilgrimage. Near is a large iron

foundry. Pop. 1500.

Maribo, the chief th. of the Isle of

marno, the chief th. of the isle of Laaland prov., Denmark, 15 m. N.W. of Nykjöbing. Pop. 3874.

Maribojo, or Maribojoe, a tn. on the island of Bohol, Philippine Islands; exports tobacco and sugar. Pop. 12,000.

Marica, a genus of perennials (order bridgers) with showy but short-lived

Iridaceæ) with showy but short-lived flowers, grown in stovehouses and

flowers, grown in stovehouses and greenhouses, in pots, or on rockeries. Marica, a tn. in the prov. of Rio de Janeiro, Brazil, on the shore of a coastal lagoon, 21 m. E. of Rio de Janeiro; has rice, maize, sugar, and manico. Pop. 6000.

Marie Antoinette, Josephe Jeanne (1755-93), wife of Louis XVI. of France. She was the fourth daughter of Maria Theresa and of the Emperor Francis I., and was born at Vienna. She matried the Dauphin of France, afterwards King Louis XVI., in 1770, but her unconventional behaviour and her extravagance made her very unpopular. On the accession of her husband to the throne (1774), her Austrian sympathies and her opposition to the demands of the popular tion to the demands of the popular party increased her unpopularity. At the outbreak of the Revolution she showed indomitable courage. She was hampered by her weak and vacillating husband, as well as by her own self-will and inability to underown self-will and mainly of indeeds stand the point of view of her enemies. She was guillotined on Oct. 16, 1793. See Madame Campan's Mémoires, 1823; De Lescure's La vraie Marie Antoinette, 1863; Lenotre's La vraie Marie Antoinette, 1863; Lenotre's Marie Marie Antoinette, 1863; Lenotre's La vraie Marie Guastalla, whilst, on the other hand, her husband was elected emperor. During the time of peace, she made great financial reforms; agriculture, and studies by manufactures, and commerce flour- (1909), etc

Marie de France, a French poetess of the 12th century. She translated into French, from an English version, 103 animal fables under the title Ysopet in octosyllabic couplets, She dedicated them to 'Count William, identified with William Longsword of Salisbury. Herother poems are twelve Breton Lais, also in octosyllabic verse, and a long poem on the purgatory of St. Patrick. The Lais are delightfully fresh and graceful, the chief being Le Rossignol, Chevrefeuille, Eliduc, and Milun. The best edition of the Lais is that of Karl Warnke (1885), and of the lays and fables together, Roquefort (2 vols., 1820). See Eng. trans. by Edith Rickert (1901), and paraphrase of Mr. O'Shaugh-

nessy (1872). Marie de' Medici (1573-1642), daughter of Francis of Tuscany, and Queen-consort of France, born at Florence. In 1600 she was married to Henry IV. of France, and her eldest son, later Louis XIII., was born in the following year. After Henry's assassination in 1610, she became regent, and was entirely under the insured the control of the latest and the statest of the statest regent, and was entirely under the influence of her Italian favourites, Leonora Galigai and her husband, Concini, who was created Marquis d'Ancre. In 1614 she was compelled to buy the submission of the discontented nobles, but in 1616 Louis XIII., prompted by Richelieu, asserted himself, ordered the assassination of the Concinis and virtually sination of the Concinis, and virtually imprisoned the queen at Blois. In 1619 she escaped and headed a new revolt, but was reconciled to her son through the mediation of Richelieu. Her attempts to displace Richelieu led to her exile to Complegne in 1630, whence she escaped to Brussels in his31, and later to Cologno. See Life by Miss J. S. H. Pardoe, 1852; A. P. Lord, The Regency of Marie de Médicis, 1904; and L. Batifiol's La Vie intime d'une reine de France (Eng.

trans.), 1908. Marie Galante, one of the islands of the West Indies, belonging to the French, 18 m. S.E. of Guadeloupe, being a dependency of the latter. Its chlef productions are coffee, cotton, and sugar. Its area is about 58 sq. m. and its chief tn. Grand-Bourg. Pop.

15,000.

Marienbad, a watering-place of Bohemia, Austria, 40 m. N.W. of Pilsen. It has a beautiful position among forest-clad hills, and possesses cold saline and chalybeate springs. It exports large quantities of salt. As a watering-place it dates from 1808. Pop. 6279.

Marienberg, a tn. of Saxony, Germany, 17 m. S.S.E. of Chemnitz, and noted for its lace manufs. Silver is found here. Pop. 7763.

Marienburg, a tn. in W. Prussia, 27 m. S.E. of Danzig. It was originally the seat of the grand masters of the Teutonic knights. The manufs. include machinery and flour.

14,025 Mariendorf, a tn. in Brandenburg, Prussia, in the dist. of Potsdam, 4 m.

S. of Berlin. Pop. 15,388

Marienwerder, a tn. in the prov. of W. Prussia, near the Vistula, 45 m. S.S.E. of Danzig. It possesses an old cathedral. It was founded in 1233 by the Teutonic Order of Knights. It has sugar reflections and Knights It has sugar refineries, and manufs. machinery. Pop. 12,982.

Marietta: 1. The co. seat of Washington co., Ohio, U.S.A., on the Ohio R., 50 m. S.E. of Zancsville. It manufs. flour, furniture, and lumberproducts, and produces coal, iron, and petroleum. Pop. (1910) 12,923. 2. The co. seat of Cobb co., Georgia, U.S.A., 18 m. N.W. of Atlanta. The people are engaged in the raising of stock and in various manufs. Pop. (1910) 5949.

Mariette, François Auguste Fer-dinand (1821-81), a French Egypto-logist, born at Boulogne. In 1839 he was in England as a drawing master; in 1841 he became professor at his old college at Boulogne. His connection with Mestor l'Hote directed his interest to Egyptology, and in 1847 he published a Catalogue analytique of the Egyptian gallery at Boulogne. In 1849 he was assistant in the Egyptian department of the Louvre: in 1850 he went to Egypt in search of Coptic MSS. and discovered the Serapeum and the catacombs of the Apis bulls. In 1858 he became keeper of the Egyptian monuments and devoted himself to archeological exploration of the Nile valley. He published: Le Sérapéum de Memphis, 1857; Dendérah; Abydos; Karnak; Deir-el-Bahari, 1877; Apercu de l'histoire d'Egypte; Ilinéraire de la Houte Egypte; Haute Egypte.

Marigiliano, a tn. of Caserta prov., Italy, 12 m. from Naples. It has a castle. Marigilanella village is 1 m. distant. Pop. (com.) 12,500. Marignac, Jean Charles Galissard de (1817-94), a Swiss chemist; studied at the Ecole Polytechnique, Paris (1838) and then at the Ecole des Mines and then at the Ecole des Mines (1837-39). He worked with Liebig at Giessen (1840), and then became pro-fessor at Geneva Academy (1841-78). He discovered the true nature of ozone, and did much research work for determining the atomic weights of the various elements. M. paid much attention to 'rare earths,' dis-covering ytterbia (1878), gadelinia. and samaria (1880). He settled the question of the composition of silicic acid (1858), and investigated the

GOLD.

Marignano, see MELEGNANO.

Marigold, a name for several flowering plants. The French, African, and Mexican Ms. (Tagetes) are valuable half-hardy garden plants. Seeds are usually sown under glass in March and planted out at the end of May. The colours vary from pale lemon to brown, and bloom, all the summer if faded flowers are removed. See Calendula and Marsh Mari-

Mariinsk, or Marinsk, a dist. and tn, of Tomsk gov., W. Siberia, Russia, on the Trans-Siberian Railway. It is a gold-mining centre. Pop. (town) 9500.

Marikanve, Lake, the largest arti-ial expanse of water in India, ficial expanse of water in India, in N. Mysore. It is 35 sq. m. in area, the water being used for irrigation and power plant, and was finished in 1908.

Marin, a tn. of Pontevedra prov., Galicia, Spain, 5 m. S.W. of Ponte-yedra on a bay of the Atlantic. Pop. 9000.

Marin, Le, a tn. on S. coast of Martinique, W. Indies, 28 m. N.E. of Fort de France. The extinct volcano of Marin is near. Pop. 5000.

Marine Engine, see STEAM ENGINE.

Marine Insurance, see INSURANCE.

Mariner's Compass, see Compass. Mariner's compass, set of Marines are soldiers that serve on ard ships of war. The men are board ships of war. The men are drilled in all respects as soldiers (light infantry), and therefore on shore are simply ordinary land-forces. On board ship, they are trained to seamen's duties, but still preserving La straye aeyu their dutied, their military organisation. Their Lattere..., 1627. Ziardini edited ordinary functions are as sharpshooters in time of action, and at his Opera, 1861. See Vila del Cavalier shooters in time of action, and at Marini by Baiacca (1625), Chiaro other times to furnish sentries for (1626), Loredano (1633), Camola guarding the stores, gangways, etc. (1633), Poppe (1771), Menghini (1888), They are useful as exercis (1633), Poppe (1771), Lives of the men's duties, but still preserving their military organisation. Their

sailors: and having alway and bayonets ready, they been instrumental in supp

> of artillery. rchased, but ughout the fficers corre-'s of similar i ority; as a

nature and process of solution. See commissioned, has her complement of Cleve's memorial lecture in Journal M. drafted into her. The uniform is of the London Chemical Society, 1895. red, with blue facings and white beits. On their colours, the men proudly bear the word 'Gibraltar.' in the famous defence of which fortress they bore an heroic part. M. were first established as a nursery from whence to obtain seamen to man the fleet, by order in council of Oct. 16, 1664. Their utility becoming conspicuous, other regiments of marine spicious, other regiments of marine forces were raised, so that by 1741 there were 10,000 men, and in 1759 as many as 18,000 men. During the great French war the number rose above 30,000 men, but a great reduction took place after peace was concluded. The government of M. rests solely with the Board of Admiralty.

Marinette, a co. and city of Wisconsin, U.S.A., co. seat of Marinette co., on the Menominee, 20 m. from Oconto. Lumbering is the chief industry. There are paper, pulp, and flour mills, machine and agricultural implement works. Bridges connect implement works. Bridges conti with Menominee, Michigan. (1910) 14,610.

Marinha-Grande, a tn. of Estremadura prov., Portugal, 5 m. from Leiria, with noted glass manufs. It has a pine forest, 'Pinhal de Leiria. Pop. 5000.

Marini (or Marino), Giovanni Bat-tista (Giambattista) (1569-1625), an Italian poet of Naples, a friend of Tasso. He was founder of a some-Tasso. He was founder of a tyle, what laboured and affected style, marred by conceits and extravagant metaphors, to which the name 'Marinismo was given. His works were much admired by contemporaries throughout Europe, and he received a pension from Marie de' Medici. collection of sonnets, Murioleide, was answered by the Marineide of Murtola. His works include Adona, 1623; La Strage degli innocenti, 1633; Lattere . . , 1627. Ziardini edited

831.

of Italy, on the Alban S.E. of Rome, in the been instrumental in supp first outbreaks of mutiny. The Royal our divisions of artillery, rehased, but 15th century). Pop. 8000.

Mario, Giuseppe, Cavaliere di Candia (c. 1810-83), an Italian singer, the greatest operatic tenor of his time. For a short time he studied under between the Ponchard, Michelet, and Bordogni, of infantry making his debut at the Paris Opera p, on being in Robert le Diable, 1838, and appearing in London (1839) in Lucrezia, Marion: 1. Cap. of Grant co., Borgia. He left the opera S.A., 57 m. N.N.E. of Théâtre-Italien (1840), to in Marion co. Natural Russia (1845-50), and in are found. There are Théatre-Italien (1840), to in Marion co. Natural Russia (1845-50), and in are found. There are (1854). M. played in the operas of machine shops, and manufs, of iron, (1805). Rossini, I and was

the most M, sang v he married (c. 1844), for many years. shovels, engines, farming implements, He retired from the stage in 1867. See blinds, etc. Its lime and stone in

adoration), the worship of the Virgin Mary. This term is chiefly used by polemical writers as one of disapproval, to express the veneration paid to the Virgin, and to statues and pictures of her in the Roman Catholic and Eastern churches. Controversialists declare that the supreme worship of λατρέια is accorded to her, while all devout Catholics maintain that it is only the highest veneration or hyperdulia '(wrepōoukéa), and that prayers to her, such as the 'Ave Maria' so constantly used, are but petitions imploring her intercession with Christ for sinners. The invocation of the Virgin and the Saints does not appear to have been common in the earliest ages of Christianity, possibly from fear of re-introducing polytheistic notions among the recent converts from paganism. The epithet Θεοτόκος! ('Mother of God') was probably first applied to Mary by Alexandrian theologians in the 3rd century. Epiphanius in the 4th century writes against the views of the Collyridians who worshipped Mary (see Haer., 79). The Nestorian movethe full development of the system of Académiciens. M., so obnoxious to Protestant controversialists, soon followed. Under known to a reader of modern works Pius IX. the 'Immachate Conceptare the following: 1. He was the distion' of Mary was declared to be an coverer of that law of clastic fluids article of faith (1854). Among the which now sees by his name; that is, chief festivals in her honour observed of the elastic force being exactly in by Catholics are the view of the space (8), the Annunciation given mass of fluid occupies. Conception (Dec. 8), (Cundlemas, Feb. 2), (Aug. 15), some datir century. The Reform century protested against M., and it is acrostatics. 2. He discovered that air, condemned in the 22nd Article of the and air in a state of condemned for the condemned and are the state of condemned for the condemned and are the state of condemned for the condemned and the state of condemned for the Church of England, and in the Westminster Confession (ch. xxi. 2). See part of the retina in which it meets Northcote, Celebrated Sanctuaries of the Madonna, 1868; Rudniki, Die vering the Impression of sight-berütmtesten Wallfahrtsorte der Erde, Among minor matters we may men-1891; Puscy, Eirenicon; Bourassé, tion the now common guinea and Sumna Aurea de Laudibus Beata feather experiment, which he first weden with the alternation. Maria Virginis, 1866.

aper, and rubber. Pop. (1910) 2. Cap. of Marion co., Ohio, 45 m. N.W. of Columbus. It ailway centre and manufs. He retired from the stage in 1867. See blinds, eds. Its lime and stone in Baker, Biog. Dict. of Musicians; dustries are noted. Pop. (1910) Pearse and Herd, The Romance of a lls. 232. 3. Cap. of Williamson co., Great Singer, 1910.

Mariolatry (Gk. Μαρία and λατρέια, Missouri. Pop. (1910) 7093.

Marionettes, little jointed puppets of wood or cardboard, representing men and women, and moved by means of cords or springs by a con-cealed agent. They are exhibited in what are called marionette theatres, the exhibiter varying his voice, so that a sort of dramatic performance is accomplished. This entertainment was known to the Greeks, and from them passed to the Romans. In modern times, it has chiefly prevailed in France and Italy, and has there

Mariotte, Edmé (c. 1620-84), a French mathematician and physicist,

reached a very respectable degree of artistic perfection.

of whose life little is known. He was born in Burgundy, was a priest by profession, and resided in early life at Dijon. He was one of the earliest French experimental philosophers, and a member of the Académic des Sciences (founded 1666). His chief work, De la Nature de l'Air (1679) contains a statement of Boyle's law of gases, known in France as 'Mariotte's law.' He was noted for his discoveries in hydrodynamics. (see Haer., 79). The Nestorian move that the traite du mouvement des caux ment was a protest against the title Traite du mouvement des caux describes, which was, however, appeared in 1686. His Collected solemnly affirmed by the (Ecumenical Works were published in 1717 and Council of Ephesus (431). After this The principal sults by which the name of M. is

> to such alterations as differ-* temperature may require, the derived from this law is now

and air in a state of condensation, exists in liquids. 3. He found that the made with the air-pump.

Mariposa (Sp., butterfly), a co. of while the office of marischal fell into Central California, U.S.A., containing the Yosemite valley and the Mambrach Tree Grove with its famous sequolas (S. giganta). The Sierra Ancient and Noble Family of Keith, Nevada borders it on the N.E. Mi Cap. Maripo gold is produced. Cap. Ma 137 m. from San Francisco. (1910) 5007.

Mariquina, a pueblo of Luzon Is., . of Manila, on a

ithassugar mills

Pop. 10,000. Maris, the name of a family of Dutch painters of the 19th century. Dutch painters of the 19th century. Of the three brothers, Matthijs (b. 1835), Jakob (1837-99), and Willem (1843-1910), Jakob is perhaps the most famous. Matthijs studied at the academies of the Hague and Antwerp, and in Paris after 1869. His works are remarkable for tender colouring and poetic feeling, and include, 'Souvenir d'Amsterdam,' The Little Parenter of the Artic.' include, 'Souvenir d'Amsterdam,'
'The Little Daughter of the Artist-Swan,' A Fairy Tale,' Mädchen mit Tauben,' 'Häusliche Geschäfte,' mit Tauben,' 'Häusliche Geschäfte.' Jakob is especially noted as a land-scape painter of water, clouds, and misty skies. He was a pupil of De Keyser and Van Lerius at Antwerp, and then of Hébert in Paris (1866-71). His works include: 'Holländische Stadtansicht,' 1878, 'Am Meeresufer,' 'Souvenir of Dordrecht,' 'Grey Tower, old Amsterdam,' The seaweed Gatherers,' 'The Baby and the Kitten,' 1877, 'A Village Scene.' See Jan Veth in Onze Kunst, 1902; de Bock, Leben, 1904. Willem preferred the bright, cheerful aspects of nature. His works include: 'Watende Kühe,' 'Enten,' 'Ein Sommertag.' Influenced by the Barbizon school, they fluenced by the Barbizon school, they in their turn influenced the growth of the Glasgow school. See Zilcken, Peintres hollandais modernes, 1893; Roose's Dutch Painters of the 19th Century, 1899.

Marischal, Earl, a title created by James II. of Scotland (c. 1458), and bestowed on Sir William Keith. The Keith family since the time of David I. had possessed part of Keith in E. Lothian. From the early 17th century the office of Great Marischal became hereditary in this family, being conferred as an honour by Bruce for their services from Bannockburn their services from Bannockburn (1314) onwards. George, fifth Earl 270 (c. 1553-1623), founded Marischal College, Aberdeen (1593). William. Seventh Earl (c. 1617-61), became head of the Northern Covenanters. He supported Charles II. (1650), but was taken prisoner at Alyth (1651). On the Restoration (1660) he became keeper of the Great Seal. George, aventh Earl (c. 1693-1778), fought for the Pretender at Sheriffmuir (1715). ban and was in consequence attained. Services and was in consequence attainted. Serbs.

of Eminent

Eloge

Maritime Alps, a div. of the Western Alps on the frontiers of France and Italy, extending from the Col di Tenda (N.W. of the Gulf of Genoa), N.W. to the Col de l'Argentière and N.W. to the Col de l'Argentière and Alps of Dauphiné. E. and N.E. come the Cottian and Ligurian Alps. Among the chief peaks are: Punta dell'Argentera (10,794 ft.), Cima del Gelas (10,286 ft.). Monte Matto (10,128 ft.), Mont Pelat (10,017 ft.), Mont Clapier (9994 ft.), Mont Tinibras (9948 ft.), Mont Enchastraye (9695 ft.), Monte Bego (9426 ft.). The chief passes include the Passo del Pagarin (Vésubic valley to Valdieri), Col della Ciriegia, Col de Pourriac (Tinée valley to Argentera), Col della Lombarda (Tinée valley to Vinadio), Col de la Cayolle (Varvalley to Barcelonnette, carriage road), Col del Sabbione (Tenda to Valdieri). See Ball, Alpine Guide, 1898; Garnier Mémoire sur les Alpes 1898; Garnier, Mémoire sur les Alpes Maritimes, 1888; Conway, The Alps from End to End, 1895. For the dept. of France, see under ALPES-MARITIMES.

Maritime Province (Primorskaya Oblasty), a large prov. of Asiatic Russia, extending along the Siberian coast of the Pacific from Korea to the Arctic Ocean, including Kamtchatka and small islands off the coast. It is bounded on the W. by the Stanovoi Mts., the Amur province, and Chinese Manchuria. The Amur and the Anadyr are the chief rivers. The surface is mountainous, and covered with forest or tundra in the N. The inhabitants include Chukches, Koriaks, Tunguses, Yakuts, Russians, and half-breeds. The climate is severe. Furs (chiefly sables) and fish abound. Coal is found, and gold on the Amgun R. Stag's horns, seaweed, and mushrooms are exported. A railway runs from Khabarovsk (cap.) to Grafskaya and Vladivostok (cap. of S. Usuri dist.), the most important town. Area 720,000, sq. in. Pop. 270.000.

Maritza (ancient Hebrus), chief riv. of European Turkey, rising on the

Mariupol, a scaport of Ekaterino-slav gov., S. Russia, on the N. coast of the Sea of Azov, 63 m. S.W. of Taganrog. It has considerable coasting trade, and exports corn and other cereals, coal, steel, etc. There are flour mills, foundries, and tanneries. Pop. about 40,000.

Marius, Gaius (157-86 B.C.), Roman general, born near Arpinum, of humble origin, and was brought up to despise the new Greek culture then becoming so fashionable in Rome. He possessed the stern and severe virtues of an ancient Roman, and at first he was characterised by great integrity and industry, but living in a licentious age his virtues soon degenerated into vices, and being without the tempering influence of literature and art, his sternness produced cruelty, and his love of country became love of self. He saw his first service in Spain (134) under the great Scipio Africanus, who raised him to the rank of an officer, and in 119 B.c. was elected tribune, becoming prætor in 115, in which capacity he subdued Further Spain. He distinguished himself in the war with Jugurtha, 109-106, and was elected consul for the first time in 107 (a great honour for a homo), finally with Sulla novus bringing the war to a close. He was next appointed to the chief command against the Cimbri and Teutones, and defeated the invaders at Aque Sextime (102), and near Vercellm on the Raudian plain (101), becoming consul for the fifth time the same year. In 100 he was again consul, but he had secured his election by means of the demagogues, Saturninus and Glaucia, and so had alienated the plebs. In consequence of this he went to Asia, but returned to take part in the Social War of 90, and when Sulla was appointed chief in command against Mithridates in 88, succeeded in getting it transferred to himself. This led to an open rupture between the two generals which resulted in Sulla defeating M., who fled to the marshes of Minturing. He subsequently went to Carthage, and returning to Rome in Sulla's absence was

a seventh time elected consul, but dled three weeks afterwards. M. was Marivaux, Pierre Carlot de Cham-blain de (1688-1763), a French writer, born at Paris. He began his literary work by a parody on Homer, but soon turned his attention to comedy His work is characand the novel. terised by its verbal affectation, afterwards known as 'Marivaudage,' and by its analysis of character. His works include: Marianne (his most famous novel), 1736-41; Les Fausses-confidence, 1733; See Gaston Deschamp's Marivaux, 1897.

Marjohn, Jean N. (1780-1850) French surgeon. Pub. Manuel d'Anatomie.

Marjoram (Origanum), a genus of aromatic herbs. The leaves of sweet M. (O majorana) are used for seasoning. Oil of M. is used in farriery, and a dye is also obtained from the plant. Mark, a German geographical term.

signified primarily the mark of a country's limits (the march); and hence was applied as a designation of the border countries or districts of the German empire, conquered from the Hungarians, Wendes, Slavonians, and other neighbouring nations. Thus, we read of the Ms. of Austria, of Northern Saxony or Brandenburg, Lausatia, Slesvig, Moravia, Steler-mark, etc. The governors entrusted with the charge of these border districts, or marks, were called mark-grafs, corresponding to the English and Scottish Wardens of the Marches (see MARQUIS). Its chief modern use is as the name of a silver coin of Germany containing 100 pfennige. Originally it was a measure of weight (chiefly for gold and silver) used throughout W. Europe, and equal to about 8 oz. In 1194, after the Conquest, a mark represented in England 160d. (20d. to 1 oz.), or 13s. 4d, 3 of £1. In Scotland it only had to of the English value. Ms. were first issued in Germany about 1875. There are gold 5, 10, and 20 mark pieces. The silver M. († thaler) is equivalent to 11 d. (English), or 24 cents (Ameri-can), and weighs 77 16 grs. Troy. See Du Cange, Gloss. Lat., 1678, under Marca.

Mark, or John Mark, the traditional author of the second gospel, is mentioned many times in the N.T., though nowhere by name in the Gospels. He is spoken of in Coll. iv. 10 as the cousin (ἐἀνεψιός) of Barnabas. His mother Mary (Acts xil. 12) seems to have been a woman of some position whose house was a frequent resort of the Christians of Jerusalem. accompanied Paul and Barnahas on their return from the visit to Judgea (Acts xii. 25), and later set out with them on the first missionary journey. On their arrival at Pergain Pamphylia he left them for some unexplained reason, and this defection later caused a sharp dispute between Paul and Barnabas which led to their taking different roads. We next read of M. as reconciled to Paul, and as being with him at Rome (Coll. iv. 10, Phil. 24). Later he seems to have visited Asia (2 Tim iv. 11). Tradition makes him the founder of the church in Alexandria, and later legend weaves many claborate myths around

his name. Mark, The Gospel according to St., the second book of the N.T., is now as the first of the gospels to be consigned to writing. Ecclesiastical tradition has held that St. Mark was its author, in accordance with the testimony of Papies (2nd century), who says that St. Mark was the 'interpreter' of St. Peter, and that he wrote his gospel at Rome from intormation derived from the apostle. In the last century the Tübingen school entirely reversed the traditional view, and placed the second gospel later than the other two synoptic narratives, holding it to be an adaptation of these two works intended to remove all that could offend cither of the two great parties of the Early Church which the Tübingen school postulated. This view may now be said to be entirely abandoned, and it may be considered as an ascertained fact of criticism that St. Mark's Gospel was used by St. Luke and the author of the first gospel. Harnack dates it between 65 and 70 A.D., so that the date offers no difficulty to accepting the traditional authorship, strengthened as its claim is by internal evidence. St. Mark's Gospel is characterised by great vividness of narrative, and a wealth of incidental detail. There is no attempt at a literary style, effect being gained mainly by the repetition of words and ideas. Either St. Mark's gospel or an earlier form of it was used in the com-pilation of both the other synoptic gospels. See Swete's Commentary on St. Mark, 1902; Menzics, The Earliest Gospel, 1901; and article in Hastings' Dict. of the Bible, where full bibliography is given.

ANTONIUS. Mark Antony, sec

Marcus

Markby, Sir William (b. 1829), an English jurist, was educated at King Edward's School, Bury St. Edmunds, and Merton College, Oxford. He was called to the bar in 1856; was judge of the High Court, Calcutta, 1866-78; and reader in Indian Law at Oxford, 1878-1900. He also did some work in the W. Indies. The most important of his publications are: Lectures on Indian Law, and Elements of Law considered with Reference to General Principles of Jurisprudence. He has written for law magazines.

Market (from Lat. mercalus, trade). This word is used either of the fixed place to which purchasers and retail merchants resort for purposes of buying and selling (such as Covent Garden M. for fruit and flowers, Leadenhall M. for meat and poultry, in London), or of a body of people met together for commercial transactions, such as the sale of provisions, live stock, etc., exposed in public, often at a fixed time and place. From

almost universally regarded by critics learly times the right to establish a M. anywhere belonged to the crown, and the illegal assumption of M. rights was checked by Edward I.'s 'Quo Warranto' inquiries. The word was not commonly used in England before the 12th century. In the middle ages the term included weekly and semi-weekly Ms., and the annual mart or 'fair.' The London Stock Exchange

with numerous subdivisions (consols, foreign stock, mining, etc.) is an example of a highly organised Owing to modern facilities of inter-communication there is little variation in the price of a given com-modity at different places. See modity at different places. See Elton and Costelloe, Report for the Market Rights,

Life, il., 1894; litical Economy,

ch. IV., 1919, maley, Economic History, i., 1894; Ellis, Rationale of Market Fluctuations, 1879; Emery,

Speculation in . . U.S., 1896; Emery, Speculation in . . U.S., 1896; Cournot, Recherches . . , 1838.

Market Bosworth, see Bosworth.

Market Desping, a market tn. of Lincolnshire, England, on the Welland, 7 m. E. by N. of Stamford.

Pop. (1911) 1300.

Market Drawton or Drawton inc.

Market Drayton, or Drayton-in-Hales, a market tn. of Shropshire, England, on the Shropshire Union Canal. It is an old town, and is in the centre of an agricultural region. Pop. (1911) 2800. Mark and

igland. market Union on the Canal, er. Ιt is a much frequented hunting centre. Corsets, patent foods, rubber goods, and brushes are among its manufs.

It has an old Gothic church. Pop. (with Bowden) (1911) 8853. Market Overt, The legal term M. O. or 'open market' is used in reference to the acquisition of a good title by the purchaser of goods where the seller's title was defective. The general rule is that the owner or his agent alone can sell so as to confer ownership, but among the various exceptions to this rule is the statu-tory provision (Sale of Goods Act, 1893, founded on the common law) that where goods are sold in M. O., according to the usage of the particular market, the buyer acquires a good title to the goods provided he buys in good faith and without notice of any defect or want of title on the part of the seller. As a fact, the buyer has no great protection, because:
(1) If the owner of stolen goods secures the conviction of the thief he gets his goods back again; and (2) although anciently, when shops were very few, the general practice was to sell and buy in markets and

are now more or less the survivals of a bygone age. In the City of London, a bygone age. In the City of London, however, every shop which is open to the public between sunrise and sunset on all week days is, by customary law, M. O. (The Shops Act, 1912, in no way affects this custom, and a city shop is still M. O. though it must close long before sunset on one day in the week.) But city shops are only M. O. for such goods at the are only M. O. for such goods as the shop-keeper proposes to deal in, nor (apparently) does the custom apply where the shop-keeper is himself the buyer. Outside the city, certain days are set apart by grant, prescription, length of time, or custom in which at the particular town or village M. O. is held. The protection extends only to goods vendible in the market. The transaction, to be protected, must have begun and ended in M. O.; e.g. sale in a private room, or sale by sample where the bulk of the goods is transferred otherwise than openly, do not constitute sale in M. O. in markets in which tolls are payable, the buyer to be protected must pay the tolls due upon the sale. The doctrine of M. O., as applied to the sale of horses, is subject to the due carrying out of the old formalities prescribed by Acts passed in the 16th See Pease and Chetty, The century. Law Relating to Markets and Fairs.

Market Rasen, a market tn. of Lincolnshire, England, 13 m. N.E. of Lincoln. Pop. (1911) 2296.
Markets, sce Farr.
Market Weighton, a market tn. in the East Riding of Yorkshire, England, 19 m. E.S.E. of York. Pop. (1911) 4383.

Markfield, a par in the co. of Leicestershire, England, situated about 7 m. W.N.W. of Leicester.

Pop. about 1500.

Markham, Mrs. (1780-1837), pseudonym of Elizabeth Penrose, daughter of Cartwright (1743-1823), inventor of the power-loom; married to the Rev. John Penrose in 1804. She is She is noted as a writer of history and other books for the young. The best known are: A History of England . . ., 1823; A History of France, 1828. Other works include: Amusements of Westernheath, or, Moral Stories for Children, 1824; A Visit to the Zoo-logical Gardens, 1829; Sermons for Children, 1837. See Smiles, A Pub-lisher and his Friends, 1891; Boase and Courtney, biensis, 1874-82. Bibliotheca Cornu-

Markham, Admiral Sir Albert Hastings (b. 1841), a British admiral; entered the navy in 1856 and retired

fairs, the almost universal rule at the present day is to buy in shops, and markets and fairs (apparently the Act includes 'fairs' or 'markets') Australian stations, and helped to Australian stations, and helped to put down 'labour traffic' in the South Sea Is. He commanded the Alert in the Arctic expedition (1875-76). M. was captain of the torpedo school at Portsmouth (1883-86), and commander-in-chief at the (1901 - 4).He explored Hudson (1901 - 4). He explored Hudson Bay and other parts near. His works include: Cruise of the 'Rosario,' 1873; The Great Frozen Sea, 1877; Northward Ho! 1878; Life of J. Davis, 1882; Life of Sir J. Franklin, 1890; and contributions to various journals.

Markham, Sir Clements Robert (b. 1830), an English traveller and geographer, educated at Cheam and Westminster. He was in the navy (1844-52), and served in the Arctic expedition (1350-51). He introduced quinine-yielding einchona trees from Peru to British India (1859-62). M. was geographer to the Abyssinian expedition, became assistant-secretary to the India Office (1867-77), secretary to the Royal Geographical Society (1863-88), president (1893-1905), and secretary to the Hakluyt Society (1858-87). Among his works are: Lives of Lord Fairfax (1870), Columbus, John Davis, Major Rennell, Admiral J. Markham, R. Hakluyt (1898) Sir L. M.Clintell-(1908) nell, Admiral J. Markham, R. Hakhuxt (1895), Sir L. M'Clintock (1909);
Travels in Peru and India, 1862;
Memoir on the Indian Surveys, 1871;
The Threshold of the Unknown Region,
1874; Life of Richard III., 1906;
Quichua Dictionary, 1908; and The
Incas of Peru, 1910.
Markham, Gervase (Jervis) (c. 15681637), an English soldier and miscellaneous writer. During the Civil
War he served in the Rovalist army.

War he served in the Royalist army. He wrote the tragedy Herod and Antipater; Sir R. Grinvile, 1595; The Poem of Poems. ... Cavelarice ..., 1607; Hunger's Prevention, 1621; and various works on sport. Baker's Bioa.Dram.; Brydges. Censura Literaria, ii.

Markinch, a burgh in the co. of Fifeshire, Scotland, 11 m. S.W. of Cupar. The chief industries are bleaching manuf, of paper. the and

(1911) 1641.

Marking Ink, see INK.
Marking Ink, see INK.
Marking Ink, see INK.
Marking Ink, see INK.
Mines), a th. in Upper Alsace,
Germany, near the Leber. There
Is some mining carried on here, but
the chief trade of the place is that
the chief trade of the Place is that

done in textile fabrics. Pop. 11,778.

Markneukirchen, a tn. of Saxony,
Germany, 28 m. S.S.W. of Zwickau.
It is chiefly engaged in the manuf. of
musical instruments. Pop. 8962.

Markovka, a tn. in the gov. of

Markranstadt, a tn. of Saxony, Germany, 7 m. S.W. of Leipzig. Pop. 8259.

Mark System. The name applies to the agrarian polity, common to all ancient Teutonic races, by which the whole grable land of the community or settlement was annually or triennially allotted among the freemen, to he held till the time came for it to lie fallow, while the pasture land was both held and used in common. The M. S. as described in Tacitus is evidently a sign of the transition between the nomadic and agricultural condition of tribes, or between a genuine community of land tenure, and an inchoate system of private ownership (Geffroy, Rome et les Barbares). The term 'mark' (in Tacitus vicus) in this context meant community, but its primary meaning boundary' points to the salient feature of the M. S. as described by Tacitus, namely the fact that the tribal habitations and fields were, for purposes of defence, bounded by huge unoccupied stretches of waste land or ' marches.' Despite much controversy it seems probable that the M. S. preceded the feudal system, which everywhere reduced the freeman to a condition of serfdom or villeinage. In England, at any rate, the M. S. falled to take root with the migration of the Saxons (see TENURE). For the social, political, and judicial aspect of the M. S., see Kemble, Saxons in England; Stubbs, Const. Hist., vol. i.; G. L. von Maurer, Geschichte der Marken-verfassung. Dorf- Hof- Städte-verfassung, and also his Einleitung (new cd. 1896); Schmid, Gesetze der Angel-Sachsen; Maine's Village Communities.

Marktredwitz, a tn. in Upper Franconia, Bavaria, 23 m. E. of Bay-

reuth. Pop. 6636.

Mark Twain, see Clemens, Samuel

LANGHORNE.

Marl, a loose appellation for all compounds of clay and carbonate of lime, which are soft and friable. Shell M. is a soft, white, crumbling deposit formed on the bottom of lakes and ponds by the accumulation of the remains of mollusca, entomostraca, and partly of fresh-water algae. When such calcareous deposits become compact stone, they form what are known as 'fresh-water' or 'lacustrine' limestones, which are generally white or pale coloured, smooth in texture, rarely splintery, and which break with a slightly conchoidal fracture.

Kharkov, Russia, 150 m. E.S.E. of public buildings, carries on a con-Kharkov. Pop. 8000. Pop. (1910) 14,579.

Mariborough: 1. A tn. in the co. of Wiltshire, England, 26 m. N.E. of Salisbury. It is an old town with interesting buildings, and its college was incorporated in 1845. It was here that Henry III. held the parliament which enacted the Statutes of Marlbridge.' Pop. (1911) 4401. 2. A dist. in South Island, New Zealand, having an area of 4752 sq. m. The chief minerals found are gold, coal, and copper. Pop. 15,000.
Marlborough, John Churchill, first
Duke of (1650-1722), a soldier, was
educated at St. Paul's School, and
was for a while page to James, Duke

of York. He entered the army in 1667 as ensign in the foot-guards, and, after serving at Tangiers, was promoted captain (1672). In 1678 he became colonel, and in the same year married Sarah Jennings (1660-1744), maid of honour to Princess Anne, over whom she had great influence. He was created Baron Churchill in 1682, and three years later took an active part in suppressing Monmouth's insurrection. For this service he was made major-general. no was made major-general. He vowed fidelity to James II., and at the same time promised William of Orange to support him. When William landed, Churchill joined him. He was given an earldom in 1689, and after serving in Flanders, was in 1690 appointed commander-in-chief. the accession of Anne he was made captain-general of the forces and master-general of the ordnance; and, on the declaration of war against France, commanded the forces in Holland. After the successful cam-paign of 1702, he was created duke. In the field he was almost invariably successful, and among his great victories were Ramillies (1706), Oudenarde (1708), and Malplaquet (1709). In the meantime his influence at home was steadily waning, partly owing to changes in the political atmosphere and partly owing to the imperious behaviour of the Duchess of Marlborough towards the Queen, who in 1710 dismissed her from her service. Peace was declared in 1711, and Marlborough, returning to England, was accused of malversation. and dismissed from all his offices. The charges of peculation were, however, not proceeded with. He went abroad during the following year, and took an active part in securing the Hanoverian succession. After the accession of George I. he was reinstated as captain-general and master of the Marlboro, a city in Middlesex co., ordnance, which offices he held un Massachusetts, U.S.A., 25 m. W. of his health gave way in 1716. A gre Boston. This city, which has several and brilliant soldier, he was ordnance, which offices he held until his health gave way in 1716. A great

thoroughly unscrupulous man. played always for his own hand, and never hesitated to be treacherous if he saw that treachery was to his in-terest. He coquetted with both sides, and both sides coquetted with him, but no one who knew him ever trusted him, not even William III. nor George I. The standard biography

of the Duke is by Coxe (1818-19).
Marline-spike (from marline, small line of two strands for seizings. etc.), a wire pin used on board ship for unravelling the strands of a rope and as a lever in tying knots, etc.

Marlitt, E. (1825-87), the pseudo-nym of Eugenie John, a German novelist. She was for a time on the operatic stage, but became deaf and retired. After 1863 she wrote many romances and novels, including Die gwölf Apostel, 1865; Goldelse; Blaubart; Das Geheimnis der alten Mam-sell, 1868; Thüringer Erzählungen, 1869; Heideprinzesschen. 1872; Die zweite Frau, The

1879. journal Die

melten Romane und Novellen appeared

1888-90.

Marlow, or Great Marlow, a tn. in Buckinghamshire, England, on the Thames, 5 m. N.W. of Maidenhead. The river is crossed here by an iron suspension bridge. The chief manufs. ere paper and lace. Pop. (1911)

Marlowe, Christopher (1564-93). a dramatist and poet, was the son of a shoemaker, and was educated at King's School, Canterbury, and Corpus Christi College, Cambridge. Presently he joined the Earl of Nottingham's theatrical company, by which most of his plays were produced. He wrote about 1587 the great blank verse tragedy, Tamburlaine, and followed this with Dr. Faustus, The Jew of Malta, and Edward II. It been asserted by competent critics that he was part author of critics that he was part author of Shakespeare's Titus Andronicus, of the second and third parts of Henry FI., and of Educard III. There is no doubt. however, that his writings exercised much influence on Shakespeare. As a poet, he is best known as the author of 'Come live with me and be my love' (published in *The* Passionale Pilgrim, 1599). It was declared that M. was an atheist, and in 1593 the Privy Council issued a warrant for him to be brought before them. Before it was served M. was them. Before it was served M. was killed by one Francis Archer in a drunken brawl at Deptford. M.'s 'mighty line' was much appreciated by most of the eminent writers of his day, nearly all of whom, including Shakespeare, paid tribute to him. He ranks with the greatest poets of the revolution of 1830, at the head

He lany time. See Ingram's Marlowe and his Associates. 1904, and Verity's Marlowe's Influence on Shakespeare. An excellent edition of his works was published by A. H. Bullen in 1885.

Marmagao, a scaport tn. in the Portuguese territory of Goa, India. It is connected by rail with the Western Ghats, and is in the centre of a manganese and iron district.

Marmalade, see JAM.

Marmande, a tn., Lot-et-Garonne, France, on the Garonne, 30 m. N.W. of Agen. It manufs, cotton and woollen goods and brandy. Pop. 9800.

Marmier, Xavier (1809 - 92). French author, born at Pontarlier. Early in life he developed a passion for travelling, and he visited Switzerland, Holland, Belgium, Germany, Russia, Africa, America, and the Northern Seas. His literary career began with the publication of a volume of poetry entitled Esquisses poétiques, 1830. His other works are: Lettres sur le Nord, 1840; Lettres sur la Russic, la Finlande et la Pologne, 1843; Lettres sur l'Amerique, 1852 Les Nouvelles du Nord, 1882; and Voyages et littérature, 1888. He also He also wrote two novels, entitled Les Fiancés du Gazida, 1860. Spitzberg, 1858.

Marmont, Auguste Frédéric Louis Viesse de, Duke of Ragusa (1774-1852), Marshal of France, born 1852), Marshal of France, born at Chatillon-sur-Seine, entered the army at an early age, served as a brigadier-general in Egypt, returned with Bonaparte to France, supported him in the revolution of the 18th Brumaire, and afterwards continued in active military service, Having Ragusan defended the territory against the Russians and Montenegrins, he was made Duke of Ragusa. He joined the great army in 1809, the day before the battle of Wagram, won the battle of Znaym, and was made a marshal. He was thereafter eighteen months governor of the Illyrian provinces; and in 1811 suc-ceeded Massena in the chief command in Portugal, where he assumed the offensive, caused the slege of Badajoz to be raised, and kept Wellington in check for fitten months. A wound compelled him to retire to France. In 1813, he commanded a corps d'armée and fought at Lützen, Bautzen, and Dresden. He maintained the contest with great spirit in France in the not

clay

cless

finally retreating with 6000 Swiss, and a few battalions that had continued faithful to Charles X., conducted him across the frontier. From ducted him across the frontier. that time, heresided chiefly in Vienna. In 1852 he engaged in an effort for the fusion of the French Legitimists and Orleanists, but died at Venice on

March 2 of that year.
Marmontel, Jean François (1723-99), born at Bort in Limousin. At an early age he became professor of philosophy at a seminary of the Ber-nardins at Toulouse, and supported his mother and family after the death of his father. An acquaintance with Voltaire brought him to Paris in 1745. Voltaire introduced him to several persons of distinction, and the success of his first tragedy, Denys le Tyran, stamped him as a dramatic poet. His celebrated Contes Moraux, gained him great reputation. On the death of Duclos he became historiographer of France; and in 1783 he was made secretary to the Académie in the place of D'Alembert. He lost his appointon D Alemoere. He lost his appointments and his property on the breaking out of the Revolution, and he removed some distance from Paris in a state of destitution. In 1796 he became a member of the National Institute, and in 1797 was elected into the council of the ancients, but this election having been reversed after the 18th Fructidor (Sept. 4), in the same year, he retired to Abbeville, where he died and was buried.

Marmora, La, see La Marmora,

ALFONSO FERRERO.

Marmora, Sea of (ancient Propontis), between Europe and Asia, connected with the Ægean Sea by the Strait of the Dardanelles, and with the Black Sea by the Bosphorus. Its length is 175 m. and its greatest breadth about 50 m., while in some parts it is over 4000 ft. deep. Among the islands in this sea is that of Marmora, celebrated for its marble quarries.

Marmosets, or Ouistitis (Hapalidæ), a family of S. American monkeys, called bear - monkeys sometimes (Arctopithecini) from their somewhat bear-like extremities, the feet having paws and claws which are necessary for the M.'s mainly insectivorous habits. The face is short, and the thirty-two teeth include only two molars on each side. The tail is not prolensile. M. are all arboreal in habit, climbing and jumping with great activity. They are not very intelligent, but their gentleness and pretty appearance make them interesting pets. The common M. (H. igachus) is about the size of a sculmed

of a body of troops, he endeavoured bushy tail marked with alternate to reduce Paris to submission, and rings of black and grey. The side of finally retreating with 6000 Swiss, the head bears a long tuft of whitish hair over the ears.

Marmot (Arctomys), a genus of rodents, usually ranked among the Muridæ, but regarded as forming a connecting link between that family and f quirrels in their their form

emble rats and and mice. They have two incisors and two præmolars in each jaw, four molars on each side above, and three below. The common M., or Alpine M. (A. alpinus), is a native of the Alps, the Pyrenees, and the more northern mountains of Europe, up to the limits of perpetual snow. It is not a native of Britain. It is about the size of a rabbit, greyish yellow, brown towards the head. It feeds on roots, leaves, insects, etc. It is gregarious, and often lives in large societies. It digs large burrows with several chambers and two entrances, generally on the slopes They spend the of the mountains. They spend winter in their burrows, in chamber of which is a store of dried grass; but the greater part of the winter is passed in torpidity. The Alpipe M. is easily tamed. The Quebec Marmot (Arctomys empetra), found in Canada in woody districts, is a burrowing but not a gregarious animal.

Marne: 1, A riv. of France, the Matrona of the ancients, the longest trib. of the Seine, on the right. It rises in the plateau of Langres, flows through the depts. of Haute-Marne, Marne, Aisne, and Seine-et-Marne, in a course at first to the N.W., and then to the W., with many windings; passes Chaumont, Johnville, St. Dizier, Vitry, Châlons, Epernay, Château-Thierry, and Meaux; and joins the Seine at Charenton, 4 m. above Paris. Its length is 326 m., and it is navigable for 126 m. It is rather a rapid stream, and in most places with a wide bed. The commerce carried on upon this river has been extended by means of canals, which link up the Rhine and the Aisne. The most important of these is the one completed in 1851 connecting it with the Rhine. 2. An inland dept. in the N.E. of France, formed out of the old prov. of Champagne, is traversed by the R. Marne, and extends southward from the frontier dept. of Ardennes. Area, 3167 sq. m. The soil is very Area, 3167 sq. m. The soil is very fertile in the S., but chalky and arid in the N. The surface is undulating in the centre of the dept., the remainder being of a level character. It is in the dry and chalky soil of the N. of this dept. where the best varieties of the famous Champagne wines (q.v.) are jacchus) is about the size of a squirrel, famous Champagne wines (q.v.) are with darkish-brown fur and long grown. Other industries include tanning. brewing, and pottery manuf. The rearing of a Spanish breed of sheep is The

Marnix, Philipp van, de Sainte-Aldegonde (1538-98), a Dutch writer and Protestant reformer; studied theology at Geneva. He drew up the Compromise of Breda (1566) opposing the Inquisition and encroachments of Philip II. As mayor of Antwerp (1584-85), he defended the city against Alexander, Duke of Parma. Next to William of Orange, he played the chief part in the libera-tion of the Netherlands. His principal work is a Calvinistic satire on Catholicism, De Roomsche Byen-korf (1569), published under the pseu-donym 'Isaac Rabbotenus.' He translated the Psalms into Dutch translated the Psalms into Dutch verse, and was the reputed author of the folksong Wilhelmus van Nassouven, the hymn of Dutch liberty. See Motley, History of the United Netherlands, i., ch. iii.; Life by Prius (1782), Dresselhuis (1832), Broes (1838-40), Quinet (1854), Juste (1858), Tjalma (1806). (1896).

Marocco, see Morocco.

Marochetti, Carlo, Baron (1805-68), Marconetti, Carlo, Baron (1905-08), an Italian sculptor, settled in Paris after 1827, and was a pupil of Baron Bosio. His works include: 'A Girl Playing with a Dog' (1827); 'The Battle of Jemappes,' a relief on the Aro de Triomphe of Paris; equestrian statues of Emmanuel Philibert and the Duke of Orleans; and in Great Britain an equestrian statue of Richard Courde Lion (1851), over at Westminster. Statues to Queen Victoria (1854), and Welling-ton at Glasgow, and the Inkerman monument at St. Paul's are by him. Maronites, a Christian sect of the

ottoman empire, so called from their Syrian founder, Maron, of the 4th (or possibly 7th) century. Their original home was Mt. Lebanon, and they also dwelt in Anti-Lebanon and Hermon, and near Antioch. Originally, Monothelits bearing Also dwelt in Anti-Lebanon and better, and proceedings of the Monothelites, becoming prominent in 713, owing to the Monothelite controversy, they

Theodora, noted for her The

thelite controversy, they united to the Roman Church

and since 1216 have been Catholics. Their head, styled the Patriarch of Antioch, resides at the monastery of Kanobin on Mt. monastery of Kanobin on Mt. Lebanon. In 1584 a Maronite college was founded at Rome for training their clergy. They number about 300,000, and, like the Druses, have since 1860 been subject to the governor of the Lebanon appointed by the Porte. See Schnurrer, Decclesia Maronitica, 1810; Bliss, Pal.

iron and copper founding, Expl. Fund Quarterly Statement, 1892;

Cath. Dict., 1885.

manufs, are largely carried on. Cap. Châlons. Pop. 436,310.
Marne, Haute-, see HAUTE-MARNE.
Marnix, Philipp van de Carrie. the West Indies after the English occupation of Jamaica (1655). They long resisted the British colonists, but were finally subdued (1796-98). Many were transported to Nova Scotia and thence to Sierra Leone. Bush negro' is now a more usual same. See Palgrave, Duich Guiana, name. See Palgrave, Dutch Guiana, 1876; Blake, North American Review, Nov. 1898.

Maros River, a rlv. in Hungary, and a tributary of the R. Theiss, which it joins at Szegedin. It rises in the Carpathians, and is 450 m. long.

Maros Vasarhely, a tn. and the cap. of Maros-Torda co., Hungary, on the Maros R., 52 m. N.N.E. of Hermann-stadt. The inhabitants are engaged in sugar-refining and in the manuf. of tobacco, beer, and spirits. Pop. 20,000.

Marot, Clement (1495-1544), a French poet, son of Jean (d. 1523), through whose influence he was introduced to court circles and became page to Marguerite d'Alencon. Imprisoned for heresy (c. 1526), M. wrote an allegorical satire, Enfer. He accompanied the campaigns of Francis I. (1520 and 1525), and was wounded at Pavia. His works include: Adolescence Clementine, 1532-33; and a translation of Psalms i.-l., 1541, condemned by the Sorbonne. This was later completed by Beza. His Collected Works appeared in 1538 and 1544; Jannet's ed., 1868-72; Pifteau's ed., 1884; Guiffrey's ed., 1.-iil., 1875-81. His rondeaux, epi-1.-iii., 1875-81. His rondeaux, epirammes, ballades, and ctrennes are examples of his best poetry. La Fontaine and others imitated the style Marotique. See Life by Douen (1878-79), Morley (1870); Sainte-Beuve, La Poésie française au XVIme Siècle; Expert, Le pseautier hugue-

profligacy. She married Alberic I. of Tuscany,

Alberic I, of Tuscany, Guido of Tuscany, and Hugo, King of Italy, and was mistress of Pope Sergius III. She had Pope John X. deposed and murdered (c. 928), and was instrumental in raising John XII, and Leo VII. to the papal throne. She had thus entire control of Rome for some receptual trees in of Rome for some years, but was imprisoned by her son Alberic II. (932). Marple, urban dist. and par, in the co. of Cheshire, England, 9 m. S.E.

of Manchester. It is engaged in the

cotton manuf. Pop. (1911) 6484. Marprelate Controversy, a Puritan attempt to defy the power of Whit-gift, Archbishop of Canterbury and the Star Chamber. John Penry commenced the struggle in 1586 with a petition to parliament accusing the bishops and elergy in Wales of gross neglect of their duties. He was arrested but only suffered a slight imprisonment. Then from 1588-90 a number of clergymen under Penry's leadership flooded the country with bitter pamphlets under the pseudonym of Martin Marprelate. These were answered in equally bitter and unrestrained language by the 'Anti-Martinists,' chief among whom were John Lyly and Thomas Nash, Public opinion would not allow harsh treat-ment of the Martinists. Later, how-ever, when the heat of the contro-versy had died down, Penry, Barrow, and Greenwood, were arrested on other charges and were hanged in 1593. See Cambridge Modern History, vol. iii., 1906. Totalish Wilhelm (1718-

on music, and of works are: Fuge, 1753-54; Beyträge, 1754leneral bass und 5-62: Anleitung : Grove, Dict. of Music (voi. in., , stis, Biog. Univ.

des Musiciens. Marque, Letter of, see LETTERS OF

MARQUE.

Marquesas Isles are, properly manduesas isles are, properly speaking, the southern group of the Mendaña Archipelago, in Polynesia, the northern group bearing the name of the Washington Is; but the name or the Wishington 18.; but the name is now applied to the whole archipelago. The M. I., in lat. 7° 30' to 10° 30' S., long. 138° to 140° 20' W., were discovered by Mendaña de Neyra, a Spanish navigator, in 1595; the Washington Isles were discovered in 1701 by Lorenten 20° 4 Archive. in 1791 by Ingraham, an American. The largest islands are Nukahiva (the seat of the French commissioner) and Hivaoa. The islands are of volcanic origin, and are mountainous, rising in some cases to over 3800 ft. above sea-level; the soil is rich and fertile, and the climate hot, but healthy. Cocoa-nut, bread-fruit, and papaw trees are grown, and bananas, plan-tains, oranges and sugar-cane are cultivated. The inhabitants are degraded in their religion and in many of their customs. Cannibalism, once practised, is now suppressed. In 1842, the M. I. submitted to the French, and now form a French protectorate. Total arca, 480 sq. m. Pop. 3500, having decreased from 100,000 during the last century.

Marquetry (Fr. marqueter, to variegate, inlay), the name of a kind of inlaid work similar to mosaic work, especially used for the decoration of furniture. It consists of veneoring or inlaying plain white wood with costly woods of varied tints, or with other materials, such as tortoise-shell, ivory, metal, nother of pearl. Shaped pieces are so combined as to form beautiful designs. M. is a later development of intarsia; the pieces are affixed to a matrix by glue. The art was known from the earliest times to the Egyptions. tians and Greeks and other Eastern peoples, and was introduced from Persia to Venice in the 14th century. The Dutch and French marqueteurs (P. Gole, Vordt, Jean Macé, and A. C. Boule) are some of the most noted. Roentgen, Reisner, and Ochen were famous German ébénistes of the 18th famous German evenistes of the 18th century. See Turck, Marqueterie for Amateurs, 1899; Wells, Veneering, Marquetry, and Inlay; Jackson, Intersia and Marquetry, 1903.

Marquette: 1. The cap. of Marquette co., Michigan, U.S.A., on the S. shore of Lake Superior. Large quantities of iron ore are shipped from the docks, and the town manufa.

from the docks, and the town manufs. machinery and engines, and has iron foundries and lumber works. Pop. (1910) 11,503. 2. A tn. in the dept. of Nord, France, 3 m. N. of Lille. Pop. 5500.

Marquis, or Marquess (originally an liective, 'march count,' from M.L. archio). Originally in European adjective. marchio). countries this was the title of the rulers of certain frontier lands or marches' (lords-marchers of Great Britain, margraves (Markgraf) of the Continent). This foreign equivalent was very common on the Continent. Then it came merely to indicate a certain degree of the peerage in England, ranking below a duke and above a count or earl. Robert de Vere, ninth Earl of Oxford, was the first M. in this sense, created 1385. He was created Marquis of Dublin by Richard II. to the great offence of the earls, who had to yield to him pre-cedence. The marquisate became firmly established under Henry VI. in 1442. It was adopted in the Scottish peerage in 1599, when the Marquises of Huntly and Hamilton were created. The marquisate of Windowsky Constant by Edward Windowsky. chester, created by Edward VI., dates from 1551, and is the oldest in existence. The title is usually territorial in form, but may stand before a surname.

Marradi, a tn. in the prov. of Florence, Italy, 30 m. N.E. of Florence. Pop. 10,000.

Marradi, Giovanni (b. 1852), an Italian poet, born at Livourne. Ar leaving the university he

inspector of education for Massa-in 1753 that an Act was passed (Lord Currara. His chief works are: Fanfasie Hardwicke's Act) with the object of Marine, 1881; Nuovi Canti, 1891; Ballate moderne, 1895; Rapsodie n edition of

1904 under

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ed ordinate. As a poet he is noted for hiselegant style and his love of nature. Marriage and Marriage and Marriage and the church regarding motherhood, the church regarding motherhood. to infer that it was rather that than the inculcation of fraternity among men that has been the rock-bottom throughout the ages of Christianity. Certain it is that in spite of its mystical story of Christ and almost purely Neoplatonic ethic being subject to the severest philosophic criticism, its powerful hold on the popular mind would be retained, if by noother bond, by its uncompromising attitude towards marriage. For once a marriage has been celebrated under the auspices of the Christian Church, there is no undoing it, whatever the divorce court may say about the matter. The ceremony, in fact, has become even more important than the contract to marry, and indeed there may well have been no such preceding civil contract. But this was neither the basis of marriage in classical times nor yet in comparatively recent times was it so in England. In Roman times consent was of the very essence of a valid marriage and religious ceremony a merely accessorial matter designed rather to bring the wife into the power of the husband and initiate her in the sacra of her new family. Later mere dissent would suffice to dissolve the married state, with the inevitable result of a moral laxity that paved the way for Christian teaching. In England, prior to the decrees of the Council of Trent in 1563, it was the general European law, notwithstanding the Church, that a mere agreement to marry supplemented by cohabitation was enough to constitute marriage, and that no formal secular or ecclesias. tical ceremony was necessary. The Church, however, through the ecclesiastical courts, could compel the parties to such informal arrangement to celebrate the marriage in due form. But the validity of these informal marriages was indirectly destroyed after 1540 by an Act which provided that a subsequent formal marriage with another person constituted a valid marriage; and some twenty years later the decrees of the Council of Trent made a religious ceremony practically a sine qua non for all justify either the ecclesiastical or the Catholic countries—decrees which after the Reformation had, of course, no force in Great Britain. It was only

Hardwicke's Act) with the object of making a formal ceremony essential to an English marriage. This Act was superseded by the Marriage Act of 1823, though the question of validity of informal as opposed to irregular marriages (e.g. marriages by Fleet parsons, see below) was left open; and again, informal marriages are valid to this day in Scotland (see also HABIT AND REPUTE) Since the decision of the House of Lords in the case of Regina v. Millis in 1843, it is generally agreed that all secular forms of marriage other than those allowed by statute, e.g. marriages before a registrar, are invalid. Jews and Quakers, however, enjoy certain privi-leges. The indirect effect of this legislation was to foster the action of breach of promise, for the power of the ecclesiastical courts to compel parties to marry who had contracted to do so informally was abolished. One ex-traordinary result follows from the sanctity of the religious ceremony: a girl of twelve and a boy of fourteen can be married by the Church, though they would be incapable of contracting civilly. Nothing further is required to validate a formal marriage in the Church than the ceremony, assuming the parties are not within the prohibited degrees of affinity, though it has sometimes been doubted in legal circles whether the marriage is actually irrevocable before consummation.

Requirements of a validly celebrated marriage.-- It is said to be essential to a validly celebrated marriage that the following conditions concur: (1) The capacity of both parties to enter into a binding contract of marriage.

previous subsisting marriage or the consanguinity of the parties. But it is at least doubtful whether, if the Church did celebrate a marriage of children below the ages previously noted, the marriage would not stand subject to either infant's repudiation at majority. Again, consent, as pointed out above, is more or less merged in the ceremony, and it may be said that 'free and intelligent' consent is implied in most cases of (As to a lunatic, normal persons. see under LUNACY.) The absence of parental consent, or that of a guardian, will not vitiate a marriage unless protest were made on the publication of the banns. (See also INFANCY.) No physical infirmity will

prior marriage, it is to be observed! that the law exempts from the penalties of bigamy any person who, not having heard of his or her spouse for seven years and hona fide believing that spouse to be dead, marries again; but if the belief prove to be illfounded, the second marriage is of course none the less a nullity. No one may marry his (or her) lineal descendant, or a lineal descendant from his (or her) husband or wife, or person from whom he (or her) or his former wife, is, or was, lineally descended, nor any collateral relative up to and in-cluding the third degree. (As to the mode of reckoning degrees, see under DISTRIBUTIONS, STATUTES OF.) blood relations of a man's wife are regarded for this purpose as his own relatives and vice versa. A man may now marry his deceased wife's sister (see under DECEASED WIFE'S SISTER).

An Anglican or Church form of marriage must be celebrated according to the rites of the Church of England as set out in the Book of Common Prayer. It must take place some time between 8 A.M. and 3 P.M. Before the day of marriage parties must either have the banns published or obtain a dispensation from such publication in the shape of 'common' or 'special' licence. The object of the publication of banns is to afford an opportunity of pro-testing to any one who may know of some 'just cause or impediment' to the marriage taking place. The fee for publication is about one shilling,

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three monus of the obtaining of the licence. (As to the fees payable on licences, see under FEES.) A special licence allows the parties to marry at any convenient time or place, so that there is no obligation to marry either within the above-noted canonical hours or in an ecclesiastical build-The minister officiating at a marriage must make a record of the marriage in his register, and the presence of two witnesses is required at this formality, though their absence would not invalidate the marriage.

Marriages before a registrar.—Marriage by civil contract, in the presence action by foreign countries whose in-of a superintendent registra some duly registered Roman

or Dissenting place of wors allowed by an Act of 1837.

ligious ceremony may be superman, but is not essential. These marriages may be solemnised either by or without licence; (1) At the register office out licence; (1) At the register office out is, as regards questions of the district in which either of the parties or both are residing, or (2) at or permanent home of each party. It any registered Roman Catholic or may be noted, too, that it is useless

Dissenting place of worship within the district with the consent of the minister, or (3) at any such registered building within two miles of the limits of the district being the usual place of worship of either party, or (4) at the nearest registered building, when there is no such place in the district, as specified in (1), (2), and (3). If by licence, fifteen days' residence by one or other of the parties is required; if without, seven days' residence by both parties, and public notice of the marriage exhibited at the register office for twenty-one days prior to the marriage. This notice is entered in the Marriage Notice Book kept by the registrar, and any one inspecting the book may enter a caveat, or objection, to the marriage, subject to the action of damages if he does so without justification,

Foreign marriages, or marriages abroad of British subjects, and mar-riages between persons one at least of whom is not domiciled in England.— The Colonial Marriages Act, 1865, renders valid all marriages, however irregularly celebrated, which have been confirmed by a subsequent statute of the colony where they were celebrated, provided the parties at the time of the marriage were com-petent to marry by English law. Such validation has not necessarily any effect outside the British empire. By the Foreign Marriages Act, 1892 a marriage abroad of a British subject before a 'marriage officer' (i.e. a British ambassador, consul, or high varying with custom. The parties colonial official appointed ad hoc) is need not valid in any British court so far as

ormalities are concerned, whatever ormalities may be required by the law of the nation to which the other party belongs. Questions of, e.g., consent of parents and capacity would be questions of substance and not form, and therefore due effect would be given to the foreign law anent such matters. By the Marriage with Foreigners Act, 1906, notice of an intended foreign marriage must be given by the English party to a registrar in continente showing th en: given must ٠to

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In the hope of evading the formalities or other requirements of their own law, e.g. divorce by mere verbal de-claration is effectual by Egyptian law, but an Englishman could not, therefore, divorce his wife by taking her to Egypt and pronouncing the necessary words of repudiation. (As to divorce generally, see DIVORCE, JUDICIAL SEPARATION, and HUSBAND AND WIFE.)

Restitution of conjugal rights.—If one party without justification withdraws from the society and presence of the other, the latter may petition the divorce court for a decree for restitution of conjugal rights. But the non-observance of such decrees cannot be enforced by imprisonment as for contempt of court, and their only value is by way of proof of desertion on which to base a subsequent petition for dissolution or judicial separation. See also Jenks, Husband and Wife in the Law (J. M. Dent & Sons), 1909; Eversley and Craics, Mar-

riage Laws of the British Empire, 1910. Intermarriage.—There is, or has been in the past, a custom among certain savage tribes in accordance with which members of the tribe are. or were, not allowed to marry outside their own tribe. Endogamous tribes are, however, frequently exogamous as regards clans within the tribe itself. e.g. the Abors of India forbid marriage outside the tribe, but at the same time a member of a particular clan or 'keeli' within the tribe may not marry another person belonging to that clan. The whole subject of exogamy and endogamy has been investigated in M'Lennan's Primitive Marriage (1865), though some of his fundamental assumptions have been severely criticised in Lord Avebury's Origin of Civilisation, and by Herbert Spencer. According to M'Lennan the practice of exogamy was dictated not by any principles of morality or raceculture, but by the mere fact that the early custom of infanticide (q.v.) resulted in a scarcity of women within the tribe, and that this scarcity led not only to stealing women of other groups, but to polyandry within the tribe itself. The position of M'Lennan that exogamy and wife stealing have been practised at a certain stage by every race of mankind, and that endogamy is a form reached only through a long series of social developments is refuted by Spencer on the ground that there coexist and have coexisted endogamous and exogamous tribes equally low in the scale of civilisation. It seems far more probable that intermarriage, e.g. as characteristic of the tribal groups mentioned by Mr. Jenksin his account

for parties to go to a strange country | of Totemism (History of Politics), is a feature only of primitive stages of social organisation, and that in most cases it has preceded exogamy. Nevertheless, endogamy prevails at the present day among certain tribes in Java and Central America (see also Westermarck's History of Human Marriage, 1894; Spencer, Principles of Sociology, vol. i., ch. iv.). As to the prohibition in ancient Rome of marriage by a patrician with a plebeian, see below.

Marriage customs, ancient

for her husband. Courtship was of short duration, and the marriage was celebrated at a cromlech in the open air, while sacrifices were offered. Polygamy was formerly practised.

Romans.—The oldest Roman form

of marriage was called confarreatio, the name and ceremony being derive tion

Ceres was the god immediately concerned, in ancient Roman ideas, with marriage. Confarreatio was a purely religious ceremony conducted by the state high priests in the presence of ten witnesses representing the ten curies of the bridegroom's tribe. and later was especially contradistinguished from the civil form usus or cohabitation with the intention of forming a marriage. The confarreate form of marriage was competent only those patricians who had privileges of the jus sacrum, and hence patricians and plebeians could not intermarry at one time. The plebeians had no analogous ceremony, and the wife only fell under the power (manus) of the husband either by a process of fictitious sale called coemptio, or by implication from remaining with the husband for one year; but confar-reatio necessarily involved marital power. If a wife, married by the process of coemptio, absented herself for three consecutive nights in the year, her husband did not acquire manus over her. The civil form of usus was not introduced out of grace to the plebeians, but rather, according to Mommsen, for the express purpose of preserving the patriciate; for otherwise the sacra would have had to be extended to the plebeians. The union of mere slaves was called contabernium, and was never regarded as more than a promiscuous relationship. The peculiarity of these old Roman forms of marriage was that they did not in themselves constitute the tie: they merely decided the position of the wife so far as the question of subjection to her husband's power was

concerned. The tie itself was ap-the priest presents the pair with a parently constituted by the mere goblet of wine, blest for its particular concerned. nuptials or rites and ceremonies of initiation into the husband's sacra were looked upon as merely accessorial to such facts as evidenced the consent, e.g. the reception into the husband's home. The bar against patriclans intermarrying with plebians was removed four years after the decemviral revolution, viz. by the Cornelian Law (444 B.C.), a law which like many other contemporaneous democratic institutions owed its enactment to the increasing wealth of the plebeians. But for long after-wards a Roman citizen could not lawfully marry a freed woman, or any other than a Roman citizen, though Antony braved Cicero's repreach by marrying Fulvia, the daughter of a freed man, and later, public detestation, by marrying his third wife, Cleopatra, a foreigner. But in 9 A.D., after the extension of citizenship by the celebrated Lex Papia Poppæa, the celebrated Lex Papita Poppets, Romans were permitted freely to intermarry with foreigners and freed men. By the time of Justinian, marriage was a purely commutual relationship subsisting only so long as the parties mutually consented to live with each other.

Ancient and modern Greeks .-With the ancient Greeks the nuptial ceremony was a symbolic representation of the forcible carrying away of the bride, by way of allusion, it seems, to the Greek tradition that a bride-groom should only be entitled to his bride by performing some heroic feat or subtle stratagem; e.g. the mythical hero Theseus is famous for the traditional abduction of Helena, daughter of Leda. On the wedding day, the betrothed pair having laved them-selves in water drawn from some special fountain, went to the temple, followed by friends singing pæans of praise. Sacrifices were made at the altar, and the bride, at least, if of the wealthier classes, was conducted to her new home in the evening in a chariot drawn by oxen or mules. There is nothing analogous in the modern Greek marriage ceremony to the heathen customs, the whole spirit of paganism having long since given place, much in the same way as in place, much in the same way as in Ireland the wild, free, nature-loving emotional temperament has become clarification to lighted dominated by elericalism. to lighted tapers and signs of the cross, and other features of the ritual of the Greek Orthodox Church. Two rings are used—a gold one for the bride-

consent given on both sides, and the office. Further prayers, benedictions, and compliments, and the removal of the crowns conclude the pious ceremony.

Welsh customs.—The custom of giving 'bidding letters' intimating an intended marriage, its date, and the intent of the parties to make a bidding at some inn to ask for the pleasure of the company and support of the parties to whom the letters were sent, was formerly almost universal, but though it may exist among the humbler classes, is now practically obsolete. There was also an old British custom called 'Purse and Girdle,' by which the bride's goods, comprising generally an oak chest and feather bed, were taken on the day before the marriage to the bride-record to have a which the grown is the compared to the bridegroom's house, while the groom in the evening received his friends' gifts. Cardigan weddings were often characterised by a procession of friends headed by a harper or fiddler. Lord Kames mentions a custom which is strongly reminiscent of the old custom of marriage by capture. The bridegroom on the morning of the wedding day went on horseback with his friends to his future father-in-law's house and demanded the bride, to which demand the bride's friends gave a positive refusal; whereupon a mock encounter took place, which eventuated in the bride fleeing on horseback with her nearest kinsman,

and being pursued by the groom, who, of course, was suffered to overtake her. Scottish customs: Greina Green marriages.—Greina Green is celebrated in history as having been the

Scotland had but to make a mutual declaration of marriage before a witness—the work of a moment—and such ceremony obviated all difficulties of age, consent of parents or guardians, banns, and so forth. A local fisherman, joiner, or blacksmith, or even the driver of the coach, has, according to Pennant (Tour in Scolland), undertaken the duties of the sacerdotal office. The first person who is reputed to have united a couple at Gretna Green was one Scott, who resided at Rigg, someother features of the ritual of the where about 1750. His successor in Greek Orthodox Church. Two rings the profitable business was an old are used—a gold one for the bride-soldier named George Gordon, who groom and a silver one for the bride, is said to have always officiated at After the sign of the cross has been the altar, dressed in a full military made by the priest with the rings, the uniform of antiquated appearance crowning ceremony is performed, and (see The Gretna Green Memoirs by

was much competition, and consequent bribery of postillions to favour the particular rendezvous of a particular 'parson.' The efficacy of Gretna Green marriages has been destroyed by the provision in the Marriage Act, 1856, which requires residence for three weeks in Scotland of at least one of the parties. ' Handfusting ' was an old customary form of marriage which for long prevailed in Eskdale and neighbourhood. According to Sir John Sinclair's Statistical Account of Scotland (1794), couples chose each other at some time-honoured fair, and, after a year of cohabitation, they continued to-gether for life if such probationary period proved mutually satisfactory. If not, they separated, and the dis-affected one was saddled with the issue. If each was disaffected it seems the husband had the issue. Later, such marriages were looked upon as perfect only when subsequently confirmed by a priest. Tegg (The Knot Tied) suggests with much probability the genesis of the custom in the Roman usus. There was also an old rounan usus. There was also an old peasant custom of betrothal by mutual licking of a cit in the large gether of the read-level thereby accompanied by the classed across a brook in which the pair had been previously washed has a more cripital derous bout it and in cit. spiritual flavour about it, and is celebrated as the ceremony that took place between Burns and 'Highland Mary.' In many rural districts the Mary.' In many rural districts the name of 'Penny Weddings' was popularly given to those weddings which were characterised by the observance of the ancient custom of levying a penny (equivalent to a modern shilling) from all who were going to be present at the celebra-It seems that during the 17th century these weddings degenerated into scenes of disorder, and in 1645 they were condemned by the General Assembly, and in 1647 the Presbyteries of Haddington and Dunbar ordained that not more than twenty persons should assemble at weddings, and that piping and dancing should cease. Among border villages 'creeling the bridegroom was a popular custom. A creel or wicker basket was placed on the bridegroom's back and a long pole with a broom affixed laid over his left shoulder. So burdened he was expected to run a race, while the strength of his bride's affections was estimated according to the degree of cagerness she showed to free him from

Robert Elliott). Later, it seems there; customary for the company to retain ! possession of the dwelling-house or cottage of the pair for the first night, while the latter were relegated to some barn or outhouse. Formerly, too, a young Highlander sufficiently; confident of his good esteem was wont near. regged from seed? and so forth, until he had the nucleus of a beginner's agricultural stock. See Rev. Chas. Rogers, Scotland, Social and Domestic. - , -4 - 1 t- 41- T-1-1-

Irish.—So people with that the sect

Irish marriage law, which regulates at every turn the conditions of the contract according to religious distinctions, has left but little room for customs that are not in the main formalities of ritual.

Among the Egyptians, 'mahr.' or dowry, is indispensable to union with a chosen female. The compact of marriage is settled by the woman's 'wekeel' (deputy). Among the upper classes the man has next to no chance of ever seeing the woman's face before by marriage, and has perforce to satisfy himself with the description of her by professional 'khat'behs' or women whose vocation is to give men information about eligible girls. On the day appointed for the ceremony, the briderroom goes to the bride's house with the promised dowry, and is received by the wekeel. The marriage contract is witnessed by two Moslems, and all present recite the Fat'heh or opening chapter of the Koran, the various phases of this ceremony being performed or con-trolled by a 'fikee' (schoolmaster). After the contract is concluded, the bridegroom waits about ten days for his bride, towards the end of which time the streets in the neighbourhood of the bridegroom are illuminated and entertainments given. Two days prior to the ceremony the bride goes in state to the bath, the procession being headed by a party of musicians with hautboys drums. After this the bride and her companions sup together in the house of the bride's family, where the bride, having mixed some 'henna' into a thick paste, sticks it on the palm of her hand and invites her guests to put gold coins into it. Having scraped it off again, more henna is then applied to her hands and feet and left in position till the next morning. The bridegroom also sits among his companions, after which he goes to some mosque and says his prayers, his encumbrance. The custom with preceded by musicians. There are a variations also existed in Ayrshire. great many more tedlous customary Among the Highlanders it used to be steps before the marriage is com-

pleted. The curious part about people of mechanical emotions and Egyptian marriages is that it is only marionette-like manifestations. at the last moment that the bridegroom, having paid what is called the price of the uncovering of the face, has a chance of satisfying himself on the question of his bride's personal appearance. If he is not satisfied he generally retains her for a week or more bef

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who are, however, inferior in status to the legal wife. Divorce is complete by the simple process of having thrice verbally said 'Thou art divorced,' when the dowry has to be

returned.

Chinese. - According to the Chinese. marriage goes by destiny, from the fact that the Buddhist teaching is to the effect that those connected in a previous existence become united in this. Once Yuelaou, the delty of the moon, has united all predestined couples with a silken cord, nothing couples when a since cord, norming can prevent their ultimate marriage. However this myth may be interpreted, we may be sure that if two parties of equal rank and station are 'destined' to intermarry their horoscopes as compared by the judicial astrologers are not likely to stand in their way. By some strange perversion of national character, live geese are among the presents given, on the supposition that they are symbolical of the contract of marriage. On the evening of the wedding day, the bride, on reaching the bride-groom's house, is lifted by her friends over a pan of charcoal at the door—the symbolical meaning of which act must be left to conjecture. Courtship and marriage among the wealthy Chinese are matters settled exclusively by the parents, who fix the time of the nuptials and consult, the calendar for a lay. The solemnisation therefore, propitious day. The solemnisation of marriage is always preceded by three days' mourning,' during which time all the relatives abstain

In France a provincial marriage requires both a civil and religious ceremony for its completion, all the pomp and parade being reserved for the latter occasion. The 'civil marriage ' is performed at mayor's office before a registrar, who, having made the necessary entries. reads passages from the Napoléon relative to the law of marriage. Prior to the church cere-mony the parties have to produce their tickets of recent confession. The bridal cortège, including the bridegroom, all leave at the same time from the bride's parental residence. The service is very similar to that in an English church, except that there are additional Romish features in the shape of swinging censers, silk canopies, and holy water.

Quakers or Friends.—There is next

to no formality in a Quaker marriage. Notice of intention to marry is to be given to the Quaker Ecclesiastical Council, which latter body make proper inquiries, and if no opposition is forthcoming and a licence has been obtained from the superintendent registrar of marriages, the marriage

is ipso facto complete.

Hebrew customs.—According to Scripture, the customs of purchasing brides prevailed among the descendants of Abraham, and undoubtedly the custom still exists in many parts of the East. The alternative for a poor man was to obtain a bride by servitude. Conformably with Oriental servidude. Contoins the service of the contoin, espousals began at a very early age, and males at the age of eighteen and females at twelve were competent to marry. The bride's hair was always disposed in ringlets, and so has been frequently compared to that of goats on Mt. Gilead. The ceremony itself was performed, as a rule, at the house of the bride's father, and usually the latter acted as the 'celebrator,' if not, the rabbi or 'hezen' of the synagogue per-formed the duties of that office,

their own deaths.

The whom they please. A son dare not refuse the bride selected for him by his father any more than the daughter can, but it is only among the lower orders that purchase and sale is common.

Japanese marriage out of that office, incomissed in covering the head 'groom's 'thelet' and country to whom they please. A son dare not refuse the bride selected for her leaving his house. After the ceremony there was usually a procession with dancing and music by tend with the groom's and sale is common.

Japanese marriage out of that office, incomissed in covering the head 'groom's 'tide with the extremity of the proof of the proof of the proof of the covering the head 'groom's 'tide with the extremity of the proof of the covering the head 'groom's 'tide with the extremity of the proof of the covering the head 'groom's 'tide with the extremity of the proof of the proof of the proof of the covering the head 'groom's 'tide with the extremity of the proof of the night to the groun's house, are pair walking or being borne along under a canopy. Every one who met the procession gave place to it. At the marriage supper the table honours were performed by the 'architrictinus' or governor of the feast Japanese marriage customs require but little description. As may be imagined, flambeaux, flags, marriage supper the table honours streamers, flowers strewn over thresholds, and loud exclamations of joy or powernor of the feast characterise the ceremonies of this (Eccles. xxxi. 1, 2; John ii. 8, 9). There

both sexes are praiseworthy for their love of and respect for marriage, and apparently premature and improvident unions seldom eventuate in pauperism or unhappiness. Modern pauperism or unhappiness. Modern Jewish weddings are, or were till recently, remarkable for the curious custom of 'sitting for joy,' by which is meant that the bridegroom, after visiting the synagogue for the 'reading of the Law,' sits in his bride's home and for the whole day receives congratulations. The better classes pagery in some held or hotel or at marry in some hall or hotel, or at home, the poor in the synagogue. There is a curious custom by which one of the officials deposits at the bridegroom's feet a small board on which is placed a wine-glass; this the groom stamps upon, when those assembled cry out, Good luck! Good luck!

Fleet marriages.—These were clandestine marriages that generally took place at the 'Fleet prison' without publication of banns by real or pre-tended clergymen known to posterity and the readers of Tom Brown's works as 'Fleet parsons.' The first recorded marriage at the Fleet is that mentioned in a letter from Alderman Lowe to Lady Hickes in 1613. wherein the writer states that a mutual acquaintance of theirs, one George Lester, having on the pre-vious day in the 'Fleette' 'maryed' the wealthy mother-in-law of one Thomas Fanshawe, would be able Thomas Faishave, would be and to 'lyve and mayntayn himself in prison.' Formerly these marriages took place at Duke's Place and Trinity Minories, until checked by the state, after which they were conthe state, after which they were con-tinued in unabated vigour at or in the vicinity of the Fleet by parsons, real or bogus, who were generally prisoners in the Fleet with neither money nor credit to lose by any pro-ceedings which the bishop might see fit to institute against them. The last of the Fleet weddings was in 1754, when, after years of abortive legislation, Hardwicke's Marriage Act of 1754 came into operation. See Tegg's The Knot Tied (1877), from which some of the above-noticed customs are quoted.

Bibliography. — W Customs; The Wedd Countries and Ages ; Law of Marriage c Ashton, The Fleet: i. and Marriages.

is no doubt that the modern Jews of and the interstices of cancellous or spongy bone. It consists of fat cells spongy bone. It consists of fat cens, red corpuscles fully developed and some in process of formation, and giant cells called myeloplaxes. There are two kinds of M., red M., which is associated with the early life of animals, and yellow M., which fills the tubular bones in later life. The function of the M. is the formation of red corpuscles and in certain of red corpuscles, and in certain forms of anemia the diseased condition is probably due to a disturbance of this function. In some such cases the M. has been found to have undergone great changes and to tend to revert to its embryonic condition. M. has been employed in the treatment of pernicious anæmia.

Marrow Controversy. In 1718 an old English puritanic book called The Marrow of Modern Divinity, first published in 1646, was republished by some Scottish divines, including Thomas Boston of Ettrick in Selkirk. including Its extreme Calvinism caused the General Assembly to condemn it in 1720. This caused a great religious struggle in Scotland, at its fiercest from 1718-22. This controversy led from 1718-22. This controversy led eventually to the General Assembly deciding to depose the Rev. Ebenezer Erskine and three others. anticipated this decision by seceding and forming an 'Associate Presbytery 'in 1733. Differences among the seceders themselves eventually led to the formation of 'burghers' and antiburghers.

Marryat, Frederick (1792-1848), a captain in the navy and novelist, born at Westminster, and second son of Joseph M., who was at one time M.P. for Sandwich. He received a private education and joined the *Impéricuse* in 1806. He formed a lasting friendship with Sir Charles Napier and Houston Stewart. In 1812 he was promoted to the rank of lieutenant. He married in 1819, Catherine, second daughter of Sir Stephen Shairp, of Houston, Linlithgow. He took command of the Beaver sloop in 1820, and was employed on the St. Helena station until the death of Napoleon. He succeeded to several

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with France decorated him and Marriages.

Marrickville a tn. in Cumberland

Legion of Honour. After his retireco., New South Wales, 3½ m. S.W. of
Sydney. Pop. 20,000.

Married Woomen's Property, see

HUSBAND AND WIFE.

Married Woomen's Property, see

Scenes and Adventures in the Life of
Exert. Mildray 1899. Peter Simple. Marrow, a fatty substance filling Frank Mildmay, 1829; Peter Simple, the central cavities of tubular bones 1834; Midshipman Easy, 1836; The

other appointments, but finally gave

up the sea afte-

Phantom Ship, 1839; Percival Keene, 1842; and Valcrie. He wrote a pam-phlet, Suggestions for the Abolition of the Present System of Impressment in the Naval Service, which created a , profound impression in naval circles at the time. He published several earicatures of a political and social nature. His stories were taken from personal experience. They are full of life, humour, and stirring narrative.

the outer, Deimos, being 14,600 m. from the planet. These minute bodies were not actually discovered till they were observed by Asaph Hall with the large refractor of Washington Observatory in 1877. So Dean Swift, when he made Mr. Lemuel Gulliver relate that the astronomers of Laputa had discovered two Martian satellites. was merely shooting a bow at a venture for all that it happened to hit the



ject. The argument in favour of life are the 'canals,' or sharp thin lines on the planet's surface, which would appear to be the product of intelligencies, and the seasonal waxing and waning of the white polar caps, which are supposed to be of snow, thereby indicating the presence of water, a prime necessary of life. On the other hand, it is suggested that the 'canals' have no objective reality, but are an optical illusion, and in addition the spectroscope shows that the Martian atmosphere, if it exists at all, must be of extreme rarity.

Mars, Mavors, or Mamers, in Roman mythology, the god of war (Gradivus), early identified with the Greek Ares. As patron of agriculture he was Province S he was known as Silvanus, as protector of the Roman state was worshipped as Quirinus. He was held next in importance to Jupiter, and never entirely lost his essentially Italian character. See Roscher, Apollo and Mars, 1873; Wissowa,

Mars, whose orbit lies between that of the earth and Jupiter and is therefore the fourth planet from the sun, known from prehistoric has been known from premisionic times. When nearest to the earth (about 36,000,000 m.) M., which shines with a reddish light, has more than twice the brightness of the brightest star, viz. Sirius, the Dog Star. The mean distance of M. from the sun is 141,500,000 m., or about one and a half times that of the earth from the sun, and its diameter is 4230 m., or about half that of the 4230 m., or about half that of the carth. As a wealth of detail is visible on the surface of M. its period of rotation has been calculated to a nicety, being slightly more than that of the earth, viz. 24 hrs. 37 min. 23 secs. M. resembling sherry. It contains 20 to is possessed of two very small sately contained to a more than 7 m. Both satellites are very near to M., the nearer, Phobos, being only 5800 m. from its surface, Sicily, 58 m. W.S.W. of Palermo. It

polyte Boutet-Mouvel) (1779-1847), a

française (1799), her first great success being in L'Abbé de l'Epée, 1803. In the plays of Molière, Marivaux, Sedaine, and Beaumarchais she was unrivalled, and she created parts in many less known plays. Mile. M. retired in 1841, appearing as Célimène in Le Misanthrope and Araminthe in Les Femmes Savantes for her' benefit. She made great reforms in stage-costume. Her Mémoires and Con-fidences (published by De Beauvoir, 1849, 1855) are of doubtful value.

has a cathedral, a vibrating bell- | modern town, elegantly built and laid tower, and a noted grotto and well. There is much trade in wines, grain, and oil, wine and brandy being the chief exports. It has salt-mines and white marble caves near. Garibaldi and his patriots landed here (1860). Pop. (com.) 64,000.

Marsden, a small tn. in the W. Riding of Yorkshire, England, in the Colne Valley, 7 m. W.S.W. of Huddersfield. It has silk, cotton, and woollen fac-

tories. Pop. (1911) 5767.
Marsden, William, F.R.S. (1754-1836), an English Orientalist and numismatist. He went to Sumatra (1771) in the service of the East India Company, and established an East India agency at Gower Street, London (1785). He was secretary to the Admiralty (c. 1795-1804). His works include, Hist. of Sumatra, 1783; Dict. and Grammar of the Malayan Language, 1812; a translation of Marco Polo, 1817; Numismata illustrata Orientalia, 1823-25. He presented his coin collection to the British Museum (1834), and his library of Oriental books and MSS. to King's College, London.

Marseillaise, the stirring French national anthem, composed by Rouget de Lisle (1792) as Chant de l'Arnée du Rhin. It was sung by the volunteers of Marseilles (hence its present name) as they entered Paris (July), and at the storming of the Tuileries (August). Forbidden under the Restoration and the second empire, it again became the national song during the Franco-Gorman War. Sce A. Rouget de Lisle, La Vérité sur la Palernité de la Marseillaise, 1865; Loquin, Les Mélodies populaires de la France, 1879: monographs of Le Roy de Samte-Croix (1880) and Loth 1879: (1886); Grove's Dict. of Music, ii.;

Larousse. v. Marseille, the first scaport o and of the Mediterranean, in t of Bouches-du-Rhone, is situ the Gulf of Lyon, 410 m. in line S.S.E. of Paris. M. is a place of the fourth class, an fended by a citadel and other works: the roads are protected by the fortified isles of 1f (crowned by a castle, once a state-prison), Pomegue, and Raton-Its harbour is formed by an inlet of the sea running eastward into the heart of the city and has great natural and artificial advantages. Immediately N. of the harbour is the old town, with narrow streets, lined with high, closely piled houses. contains the cathedral, a structure originally built out of the ruins of a heathen temple in the 4th century. street, Le Cours, is situated the Action.

out. Here the shops and houses rival in splendour the finest in Paris Other fine streets are the Cours Bona parte and the Promenade de Tourette The site of the city is a valley surrounded by hills, the highest of which is Notre-Dame-de-la-Garde, M. has schools of hydrography, medicini, drawing, and music; five hospitals, observatory, various societies, a fine public library, a cabinet of natural history, botanical gardens, and a picture gallery. Shirbuilding and the allied employmen's of a scaport are carried on. Nineten million tons of shipping are entered and cleared annually, and there a extensive trade in grain, coal, soap, oil seeds, and petroleum. During portion of the year, the climate of M is delightful, but in summer and autumn the heat is often intense. M. was founded by a Greek colony from Phocaea, in Asia Minor, about 600 years B.C. Its ancient name was Massalia, written by the Romans Massilia. It was an important Massilia. It was an important member of the ancient Greek community, planted numerous colonies along the N. Mediterranean shores, and introduced the germs of Greek civilisation into Gaul. In the 8th century it was destroyed by the Arabs, and the maritime republics of Italy inherited the commerce of the Mediterranean, which formerly had been centred in M. It was united, with the whole of Provence, to France in the reign of Charles VIII. In 1720, when it had again risen to great importance, it was ravaged by a fearful epidemic, and 40,000 of its inhabitants swept away. Pop. 550,619. Marsh, Mrs. (nee Anne Caldwell) (c. 1798-1874), an English novelist.

Among her most popular books are: Tales of the Woods and Fields, 1836;

1846; Norman's of them pub-She inherited operty, Stafford-

Warch, Garren Parking (1801-S2), an was elected Council of

the state in 1835, and to Congress in 1842 and 1849. He was then United States minister resident at Constantinople, and in 1852 went on a special mission to Greece. Between 1857 and 1859 he was railroad commissioner for Vermont; and from 1861 until his death was the first United States minister to Italy. His most important works are: Grammar of the Icelandic Language; The Camel; The Originand History of the English Language; and Westward from the old town, and History of the English Language; and connected with it by a beautiful The Earth as Modified by Human

Marsh, Herbert (1757-1839), a theo-tilish political economist, lecturer in logian and controversialist, was the moral science at Cambridge (1865). first to introduce the German methods of Biblical criticism into England, and gave lectures on the subject and gave lectures on the subject at Cambridge, which excited great-interest and controversy. In 1816 he was made Bishop of Liandaff, and was translated to Peterborough in 1319. His critical views and his opposition to the evangelical party in opposition to the evangencial party in the Church, to the Bible Society, and to Catholic emancipation, involved him in controversy with all churchmen. He was the author of a History of the Politics of Great Britain and France, 1799; Comparative View of the Churches of England and Rome. Marsh, Othniel Charles (1831-99),

an American paleontologist, professor at Yale (1866), noted for his discoveries of many new species of discoveries of many new species of extinct vertebrates, largely from the Rocky Mts. His chief works are: Odontornithes . . , 1880; Dinocerata . . , 1884: Sauropoda, 1888; The Dinosaurs of N. America, 1896. See Woodward in Geol. Mag., 1899; Beecher in Amer. Journ of Sc., 1899.

Marshal (Fr. marechal, from It. mariscalco, a farrier), a word which originally meant a man who took care of horses. The importance of the persons appointed to take charge of the royal horses gradually increased, until the word M. signified one of the highest officers of the court. The States Supreme Court, appointed by the President. With various additions M. represents various ranks, etc., as in field marshal, marshal of France, marshal of the hall, etc.

Marshal, William, first Earl of Pembroke and Striguil of the Marshal Pambroke and strigui of the marshal line (c. 1146-1219), an English nobleman and soldier, trusted knight of Henry II., and tutor to his son, Prince Henry. After 1187 he fought in the French campaigns. He became marshal of England under Richard I., on the death of his brother John (1194). On Richard's death, M. supported John's claim to the throne (1199), and held office under him. On John's death (1216), he became regent of England for Henry III. during his minority. See Histoire, 1225, discovered by Meyer; Stubbs, Constitutional History, ch. xii. and xiv. Marshall, cap. of Harrison co., E. Texas, U.S.A., 40 m. from Shreveport, Louislana. It has cotton gins, collecting and reference and reference.

oil-mills, an ice factory, and railroad shops, and various educational insti-tutions. Pop. (1910) 11,452. Marshall, Alfred (b. 1842), an Eng-

professor of political economy there (1885-1908). He was principal of University College, Bristol (1877). Omversity College, Bristol (1877). His publications include: Economics of Industry, 1879 (with his wife); Principles of Economics, 1890-91; The New Cambridge Curriculum in Economics, 1903.

Economics, 1903.
Marshall, John (1755-1835), an American jurist, of English descent. He was elected to Congress (1799), was a member of President Adams's cabinet (1800-1), and chief-justice of the United States Supreme Court (1801-35). He enlisted in the army (1776), but resigned (1781). M. wrote a Life of Geon See Life by

1903: Flander

Griswold, Prose is ruers of America Collon's ed. of his Constitutional Decisions, 1905.

Marshall, Robert, Captain (1863-1910), a Scottish soldier and playwright. He retired from the army (1898), and won success with his play, His Excellency the Governor, produced that year at the Court Theatre, Other plays of his were, A Royal Family, 1899 (revived 1907); The Second in 1899 (revived 1907); The Second in Command, Haymarket, 1900 (revived about 1912 at the Playhouse); The Duke of Killicerankie, 1904.
Marshalling, in equity (q.v.) means such an arrangement of the assets of

precedence, etc., at official functions of fair distribution to the various precedence, etc., at official functions, persons entitled to share in them. In U.S.A. a M. is an executive or ad- There are two principal applications ministrative officer for the United of the term: (1) M. applications States Supreme Court appointment of the term: a deceased person as will secure their creditors. Equity compels specialty creditors (i.e. those whose debts are evidenced by a deed) to resort primarily to the real assets (i.c. land). in order that the personalty (pro-perty other than freehold or copy-hold land) may be left as unexhausted as possible for the simple contract creditors (see Contract); and generally where two persons. X and Y. are creditors of the same debtor, and X has two funds. A and B. of the debtor to resort to, while Y is limited to A, Y will be permitted to stand in X's place as regards payment of his debt out of B, if X has resorted to fund A (M. of securities, or M. as between secured creditors). But where the different funds belong to different persons, M. is not allowed to the prejudice of third persons. The doctrine of M. of securities is of especial importance in regard to second mortgages by a person of two (or more) of his estates, the equitable principle being that in such cases the first mortgage will be apportioned between the two properties according to their respective values. (2) M. as

between beneficiaries entitled under a will, where creditors have depleted the estate. The general principle herein is that if any beneficiary in the subjoined list is disappointed of his benefit under the will through a creditor seizing upon the fund or property intended for such beneficiary he may compensate himself by going against the fund or funds of those coming immediately after him in the list, who in their turn may do likewise, with the result that those who come last may get nothing at all. The order is as follows: (1) Widow; (2) specific and residuary devisees and specific legatees; (3) pecuniary legatees; (4) charged devisees (specific and residuary); (5) heir at law (q.v.); (6) devisees upon trust; (7) next of kin or residuary legatees.

Marshall Islands, a group of coral formation in Micronesia, Pacific Ocean, N.E. of the Ladrone Is., Poly-nesia. There are two groups, Ratak (E.), and Ralik (W.), both ranging S.E. to N.W. The whole archipelago is composed of some thirty-three atolls, 158 sq. m. in area. They were annexed to Germany (about 1885), and administered by the Jaluit Com-pany of Hamburg till 1906. The administration was then taken over by the German colonial authorities. forming a district under the New Guinea government. Copra and phosphate are exported. The Micronesian inhabitants are skilled navigators. Pop. 15.000 (Europeans, 180).

Marshalltown, cap. of Marshall co., Iowa, U.S.A., near the Iowa R., 48 m. N.E. of Des Moines, the centre of a fine agricultural region. It has a glucose manufactory, packing establishments, furniture, manufactures of machinery, engines, etc. Pop. (1910) 13,375.

Marshalsea, formerly а prison existing in Southwark, London, used latterly for debtors, and abolished in 1849. It was connected with the Marshalsea Court, held by the steward and marshal of the king's household. It was united with the Queen's Bench and the Fleet (1842). See Dickens, Little Dorrit; Hare, London, i.

Marshfield, a banking city of Wood co., Wisconsin, U.S.A., 108 m. N.W. of Milwaukce. It has trade in lumber, and manufs. of wood-veneer, springs, mattresses, etc. Pop. (1910) 5783.

Marsh Gas, see METHANE.

Marsh Mallow, or Althora, a genus of biennials or perennials (order Malnatis) is a downy plant occurring in prisoned, but were afterwards released marshes near the sea and bearing Shortly after this the intimacy becomes of rose - pink flowers. A tween M and Jonson was again interdemuleent is prepared from the root, rupted. The former, in his preface to

The rare hispid M. M. (A, hirsula) is the only other British species.

Marshman, John Clark (1794-1877) educationist, son English Joshua (d. 1837). He became official translator, accompanying Bengali ` his father to Scrampur (1800), and directing his religious undertakings after 1812. He started a paper-mill, and with his father founded the Bengali Sumachar Durpun (1818), and the English weekly, Friend of India (1821). His Guide to the Civil Law was (before Macaulay's work) for long the civil code of India. Other were a Dictionary works Bengalee Language, 1827-28; History of India (to Dalhousle's administra-tion), 1863-67; Life and Times of Carey, Marshman, and Ward, 1859. See Times (July 10, 1877); Hunter, Gazetteer of India, under 'Serampur.' Marsh Marigold, or Callta palustris, a handsome plant with large kidney-

shaped, glossy leaves and golden-yellow sepals, the petals being yellow sepals, the petals bein absent. Common in watery places.

Marsh's Apparatus, see Arsenic.

Marsh's Apparatus, see Arsenic.

Marsi, a brave and warlike people of the Sabellian race, dwelt in the centre of Italy. Their bravery was proverbial. They were the prime movers of the celebrated war waged against Rome by the Socil or Italian allies in order to obtain the Roman franchise, and which is known by the name of the Marsic or Social War. Their chief town was Marruyium. They were regarded as magicians.

They were regarded as magicians. Marsico Nuovo, a com- and tn. of Potenza prov., S. Italy, 16 m. S.W. of Potenza. Pop. about 6300. Marsivan, or Merzitun, a Turkish tn. in the Amasia sanjak of Sivas vilayet, Asia Minor, at the foot of the Tavshan Dagh, 85 m. S.S.E. of Sinope. It contains many missionary schools. There are silver mines and vineyards near, and hot baths at Khavza. Pop. 15,000.

Marske-by-the-Sea, place on the N. coast of Yorkshire (North Riding), England, 2 m. S.E. of Redcar, with ironstone quarries. Pop. about 3000.

Marston, (1575-1634),John dramatist and satiric poet. As early as 1601 he was satirised under the name of Demetrius, in Ben Jonson's However, in 1605 M. Poetaster. dedicated to Jonson, with expressions of affection and esteem, The Malcontent. In the same year he was assisted by Jonson and Chapman in the composition of Eastward Hoe. For some reflections against the Scots in vacere). The common M. M. (A. offici- this comedy the authors were imhis Sophonisha, hints at the plagiar-isms from Roman authors in the Catiline and Sejanus of the latter. Louise Chandler Moulton, he dedi-ventive genius of the dramatist, M. Almost immediately previous to his had much of the spirited vigour and pungent wit of the satirist. In the Scourge of Villainy, he is lofty and intrepid in his censure of vice, but is often carried by his vehement invec-In the

Scourge of Villainy, he is lotty and intrepid in his censure of vice, but is often carried by his vehement invective to the very verge of coarseness and indecency. His other works are: The Medamorphosis of Pigmalion, a satire, 1598; Antonio and Mellida, a tragedy, 1602; Antonio's Revenge, a tragedy, 1602; The Dutch Courtesan, a comedy, 1606; What You Will, a comedy, 1606; What You Will, a comedy, 1607: The Insatiate Countess, a tragedy, 1617.

Marston, Dr. John Westland (1819-90), a dramatic poet, born at Boston, Lincolnshire, the son of Rev. Stephen M., Baptist minister. He left the legal professon for literature and the theatre, and became acquainted with Heraud, Francis Barham, John Tobin, Sheridan Knowles, and other dramatists. He contributed to Heraud's magazine, The Sunbcam, and became editor of a mystical periodical, The Psyche. He became acquainted with Eleanor Jane Potts, the eldest daughter of the proprietor of Saunders' News Letter, an intimacy resulting in marriage in 1840. His first play, The Padrician's Daughter (1841), brought out by Macready, was accompanied with a prologue by Dickens. His next, The Heart of the World (1847), was a failure, but Strahmore (1849) obtained a great success. Among his many dramas are: Marie de Meranie, 1850; Anna Blake, 1852; A Life's Ransom, 1857; A Hard Struggle, 1858; Pure Gold, 1863; Donna Diana, 1864; The Favourite of Fortune, 1866; A Hero of Romance, 1867; Broken Spells, 1873; and Under Fire, 1885. He was joint-editor of the National Magazine in 1837, and contributor to the Athencum in 1863. His plays lack in 1837, and contributor to the Athencum in 1863. His plays lack vitality, but as a critic he excelled over original composition. In 1863 he received the degree of LL.D. from the University of Glasgow. A collection of his demotile weeks tion of his dramatic works was edited by himself in 1876.

Marston, Philip Bourke (1850-87), an English poet, born in London. He was the only son of Dr. Westland M. His life was one of successive misfortunes, and through an accident received during childhood he lost

Almost immediately previous to his death he contributed to various periodicals. His poems are gloomy in conception, but full of intensity of feeling.

Marston Moor (Yorkshire), Battle of, fought on July 2, 1644, between the Royalists, under Prince Rupert and the Earl of Newcastle, and the Parliamentarians, commanded by Lord Fairfax, Earl of Manchester, and Cromwell. In this battle the Royalists were completely routed.

Marstrand, a scaport tn. of Sweden, situated about 20 m. N.W. of Gothenburg, on an island in the Cattegat. It is a favourite summer resort for visitors. Pop. 1700.

Marsupials (from Lat. marsupium,

pouch), an important subdivision of mammals, also called Didelphia or Metatheria, often ranked with monotremes or placentals. The name 'Marsupialia' (introduced by Tyson about 1698) is derived from the characteristic ventral pouch of skin supported by two epipuble bones in which the young, who are born very imperfectly developed after a short period of gestation, are carried and nourished by the females. Existing M. are mainly restricted to the Australian and Austro-Malayan regions. The three main divisions are: (1) Polyprotodontia (America and tremes or placentals. The name (1) Polyprotodontia (America and (1) Polyprotodontia (America and Australasia), including the Didelphyida (American opossums), dasyures, the thylacine or Tasmanian wolf, M. moles (Notoructs typhlops), and bandicoots. They are mostly carnivorous and insectivorous, and the pouch is often absent. (2) Taucituberculata (exclusively S. American, of the family Epanorthidae). (3) Dinot the family Epanorthidae. of the family Epanorthidee). (3) Diprotodontia (Australasian, and a few in E. Austro-Malayan Is.), including the wombat, koala, or sloth, cuscus, kangaroo (Macropodidæ family), wallaby, and phalanger. These are wallaby, and phalanger. These are herbivorous, and represent the most highly evolved forms of the M. See Gould, Mammals of Australia, 1845-63; Thomas, Brit. Mus. Catal. of

1887; Bensley, ' On Australian Marsuplalia ' in American Naturalisi,

1901: Beddurd, Mammalia, 1902.
See Manmars.
Marsyas, a Phrygian satyr who found Athena's flute, which of its own accord emitted the most beautiful music. Thereupon M. challenged Apolle to a project contact the contact of the contac his sight at an early age. Soon after found Athena's flute, which of its his first poem, Song Time, was published he lost his sister, Cicely (1878), full music. Thereupon M. challenged his amanuensis, followed in 1882 by Apollo to a musical contest, the conthe death of his poetic ally, Gabriel ditions of which were that the victor Rossetti, to whom he was greatly should do what he pleased with the

vanquished. The Muses decided in ! favour of Apollo, who bound M. to a tree and flayed him alive. His blood was the source of the R. Marsyas. There is a statue of M. in the forum of Rome. See Ovid Metam. vi. 382-399, and Frazer in Adonis, Attis, and Osiris, chap. vi.

Martaban, a tn. of Lower Burma, on the Salwin R., 10 m. N.W. of Maulmain. Formerly the capital of Pegu and a place of importance.

Martaban, Gulf of, an inlet of the

Bay of Bengal. It receives the three rivers — Irawadi, Sittaung, and Salwin. CHARLES

Martel, Charles. see4 MARTEL

Martel de Janville, see GYP. Martelli, Pier Jacopo (1665-1727), an Italian dramatist, born at Bologna. Here, in 1707, he was appointed professor of eloquence. He wrote a religious poem, entitled Degli Occhi di Gesu, and several tragedies, comedies, and farces. collected works appeared at Bologna in 1733, and Clogierà wrote biography in the Opuscoli, ii., 1729. M. employed the Alexandrine verse rather than the Italian form in most of his works.

Towers, Martello round towers formerly used in English coast de-The name is derived from Mortella Point in Corsica. In 1794 an English fleet, under Lord Hood, supported the Corsican insurgents, and a small round tower near Corsica withstood their fierce cannonade. The strong resistance shown by this tower led to ones of a similar nature being erected along the English shores, especially on the southern and castern coasts. They are about 40 ft. high and situated on the beach. Nowadays they are con-

sidered obsolete.

Marten (Mustcla), the name given to a number of animals of the weasel family, but applying specially to the Pine M. and the Beech or Stone M. (M. foina). The Pine M. still occurs in the N. of England and Scotland. In shape it resembles a stoat, but its body is much longer, the tail alone being often a foot long, the legs are short, and the paws have sharp, clawed digits. The fur is a beautiful dark digits. brown with a large yellow patch on the breast. The Beech M. or Stone M. of the S. of Europe (with a white patch) supplies the fur trade with stone or baum M. skins. Other species include the Pekan, the American N., and the Sable (q.v.). The Foul M., or Foumart, is the Pole Cat (q.v.). All the Ms. are arboreal, frequenting coniferous woods where a nest of leaves or moss is made, and feeding on small animals and birds. If taken young,

Ms. are easily tamed, and the Beech M. was kept in Athens and Rome to catch mice.

Marten, a com. in prov. of West-phalia, Prussia, 4 m. W. of Dortmund Pop. 11,613.

Martensen, Hans Lassen (1808-84),

theology at this place. In 1854 he became Bishop of Seeland (the highest position in the Danish Church), after having been court preacher since 1845. Among his works are: Mester Eckart, Among his works at the late of Elhites, 1840: 1841: 1849; A Systen 1872. See his autobiography (German trans., Aus meinen Leben, 1884.
Martha's Vineyard, an island in the Atlantic Ocean of Martha's Vineyard, and Standing Ocean of Martha's Vineyard, and Ocean of Martha's Vineyard, and Ocean of Martha's

Atlantic Ocean off Massachusetts, U.S.A., 23 m. long. It forms the greater part of Duke co., and was so named by the Goswold expedition on account of the excessive growth of

vines. Pop. (1910) 4600. Martialis, M. Valerius (b. c. 40 A.D.), an epigrammatic poet, born at Bilbilis in Spain. He came to Rome in 66; and after residing in the metropolis thirty-five years, he returned to the place of his birth in 100. His death cannot have taken place before 104. His fame was widely extended, and he secured the patronage of the Emperors Titus and Domitian. His extant works consist of a collection of short poems, all included under the general appellation Epigradivided into fourteen books. Epigrammata, They distinguished by fertility are distinguished by fertility of imagination, flow of wit, and felicity of language; but they are defiled by impurity of thought and expression, and by base flattery of the Emperor Domitian. M. throws a valuable light on the social life of Rome in the 1st century of our era. The best edition of Martialis is that of Schneidewin. Unfortunately, there is no good translation of the epigrams in English; the best working edition (in selections) is that of Bridge and Lake (1906).

Martial Law. This expression is used by writers on constitutional law in a three-fold sense: (1) The suspension of the ordinary or municipal law of a country in favour of the temporary government of the country or parts of it by military tribunals. In the Code Napoleon of France there is express provision for the proclama-tion of 'a state of siege' in certain circumstances of civil disorder, the effect of which is that military tribunals are empowered to try civilians by military law. The absence of precedent for such course of proceeding since the Petition of Right, 1628—which inter alia complained of the enforcement of M. L. against private individuals—has led many writers to assume that it is unknown in England. But the decision of the Privy Council in the case of Marais r. General Officer Commanding, in 1902, on the appeal of a civilian, Mr. Marais, against his detention under military arrest during the S. African War, was to the effect that such arrest was justifiable on the ground that war was then raging in the colony: and that tribunal further expressed the opinion that there never was any doubt that in time of war the ordinary courts have no jurisdiction over the action of military authorities, and that the only difficulty was to establish in particular cases when a state of rebellion or insurrection could be said to have existed. (2) The term is sometimes erroneously used to denote the com-mon law right of the crown and its servants to repel force by force in the case of any violent resistance to the law whether by invaders or rioters. (3) As a synonym for military law. or the law administered either (a) by the long abolished Court of Chivalry of the Earl Marshal and Lord High Constable in affairs of honour, and generally in 'matters of arms and deeds of war,' or (b) by courts-martial at the present day in pursuance of their powers under the annually re-

16 m. S.W. of Sion. point of routes ove Bernard and the C

Martigues, a seaport of France, a French historian and politician, near the Etang-de-Berres, 21 m. S.W. born at St. Quentin (Aisne). He first of Aix, in the dept. of of Aix, in the dept. of Rhône. It is built on

connected by bridges.

and lignite-mines. Pop. 5700. Martin, a name for some members of the swallow family, but usually implying the House Martin (Chelidon urbica), which builds a mud nest under the eaves of houses. It differs from the swallow chiefly in having a white band across the lower back. Other Ms. include the Sand M. (q.v.), the American Purple M., and the Fairy M. The so-called Black M. is the

Swift (q.v.).

He died in 655. He is canonised by the Greek Church.

Martin II., or improperly named Martinus I. (882-84), was sent as legate to Constantinople on a mission concerning the controversy excited by Photius

Martin III., or Martinus II. (942-46), was merely a puppet of Alberic (d. 954), a prince and senator of the Romans.

Martin IV. (1281-85) supported parles of Sicily against Peter Charles excommunicated Aragon and Michael Palæologus.

Martin V. (1417-31) was chosen pope by the Council of Constance. He ignored the reforms instituted by his predecessor, Gregory XII., and made separate concordats with Germany, France, and England.

Martin, Lady, see FAUCIT, HELENA

SAVILLE

Martin, Saint (316-400), Bishop of Tours, and a saint of the Roman Catholic Church, born in Pannonia (now Hungary). He entered the army first under Constantine, and after-wards under Julian the Apostate. The virtues of his life as a soldier are the theme of more than one interest-ing legend. On obtaining his discharge from military service, M. became a disciple of Hilary, Bishop of Poitiers. On his return to Gaul about 360, he founded a convent of monks near Poitiers, where he led a life of austerity and seclusion; but in 371 he was drawn newed Army Act of 1881 to deal with all matters of military discipline. Hartigny, three united hamlets in literary relic of M. is a short Conthe can on of Vali

is published by Galland, vol. 9. In the Roman Catholic the festival of his birth is

and is situated on the Simplon Rail-celebrated on Nov. 11. In Scotland way, 24 m. S.E. of the Lake of this day still marks the winter term, Geneva. It has some interesting which is called Martinmas (the mass Roman remains. Alt. 1560 ft. Pop. of St. Martin).

the study of history and He wrote A History of

Lacro Franand 1 Ma. trans rey.

Fran

that rema trans

from the Latin Vulgate, the first Martin, the name of five popes:

Martin I, (649-53) was banished to printed at Antwerp in 1600; revised Kherson by the Emperor Heraclius by Bishop Challoner (1749-50), and for his opposition to the Monothelites. 1812, and by Frederick Charlest for Husenbeth in 1850.

Martin, Sir George (1764-1847), a British admiral, youngest son of William M. (d. 1766). He was present at the battle of Grenada, July 6, 1779, and was promoted to the rank of lieutenant and command of the Russell. In 1797, in command of the Irresistible of seventy-four guns, he took part in the battle off the Cape of St. Vincent. In the following year he was appointed to the command of the Northumberland, and assisted in the capture of the Généreux, Feb. 18, 1800. He was made vice-admiral in July 1810, and received the order of St. Januarius from the King of Naples in 1814. He received many honours, and was promoted to the rank of admiral of the fleet in Nov. He married twice, but died without issue.

Martin, John (1789-1854), an English painter, born in the neighbourhood of Hexham, Northumberland, went to London in 1806, and after went to London in 1806, and after obsoure struggles managed to have his picture 'Sadak in Search of the Waters of Oblivion,' hung in the Royal Academy (1812), this attracted considerable attention. The principal productions are: 'Belshazzar's Feast'; 'Creation'; 'The

'Creation'; 'The Fall of Nineveh'; 'Morning' and 'Ever Man'; Expulsion from Paradise.' M. died at Douglas, Isle of Man. Martin, Sir Theodore (1816-1909), an author, was the son of an Edinburgh solicitor, and followed his father's profession. In 1846 he set up as a parliamentary agent, and soon acquired a large practice and amassed considerable wealth. In 1851 he married Helen Faucit, the actress. was early attracted to letters, and with Aytoun wrote the Bon Gaultier Ballads (1842-44), a series of parodies after the style of Rejected Addresses, but inferior to that collection. also wrote essays on the drama and on actors, and made many translations from the German and other languages, as well as a biography of Lord Lyndhurst (1883). In 1866 he was Lyndaurst (1883). In 1866 he was invited to write the official Life of the Prince Consort, which task he undertook. The work was published in five volumes (1875-80). For this service he was created C.B. in 1878 and K.C.B. in 1880. The blography was a eulogy of the Prince Consort, and presented his Royal Highness in a clearer light than that in which save clearer light than that in which, save by the few, he had been seen. M. was registrar of the Royal Literary Fund from 1871 to 1907. Martin, Sir Thomas Byam (1773-

1854), a British admiral and third son of Sir Henry Martin, Bart. He was! (subsequently removed to London).

for many years commissioner at Portsmouth, and afterwards comptroller of the navy. He received his training at the Royal Naval College, Portsmouth. On Nov. 23, 1790, he was promoted to be lieutenant of the Canada, and took part in several small battles. He organised the attack upon the Russian fleet while attached to the Swedish navy. He represented Plymouth in parliament from 1818-31, and rose to the rank of viceadmiral of the fleet in 1849.

Martin, William (c. 1767-1810), an English naturalist, born at Mansfield, Nottinghamshire. He is famed for lds works on British fossils: Petrifasla derbiensia; or, Figures and Descrip-tions of Petrifactions collected in Derbyshire (1804), and Outlines of Extraneous Fossils on Scientific Prin-

ciples (1809). Martina-Franca, a tn. in the prov. of Lecce, Italy, 17 m. N.N.E. of Taranto. Has a fine ducal palace. Taranto.

Pop. 25,000. Martineau, Harriet (1802-76), an author; suffered in youth from bad health and later for a time from something akin to religious mania. Without any intention of devoting herself

out any intention of devoting herself to literature, she wrote, at the suggestion of her younger brother, a per on Female Writers on Divinity, which was printed Monthly Repository (1821). This encouraged her, and she composed some verses, short stories, and a theological novel. Devotional Exercises appeared in 1823, Traditions of Palestine in 1830. Between 1832.31 she brought out in nine volumes Illustratic Illustratic followed

Paupers of Taxation. She wrote a History of England during the Thirty Years' War (1849) and a work on Household Education. She had the journalist's capacity for 'getting up' any subject, and issued books on mesmerism (1845) and the British Rule in India (1857) with equal facility and un-She was the bounded confidence. author of several stories. Perhaps the

best thing she wrote was Feats on the

Fiord. Her autobiography was published in 1877. Martineau, James (1805-1900), a Unitarian theologian, younger brother of the above, born at Norwich. Possessed of considerable inventive and mathematical talents, he was originally intended for engineering, but studied for the Unitarian ministry, to which he was ordained in 1828. After serving as pastor in various places he became in 1840 professor of mental and moral philo-

sophy in the Manchester New College

and principal, in 1869-85. Among his writings, which were very influential. are: Rationale of Religious Inquiry, 1836; Ideal Substitutes for God, 1879; Sludy of Spinoza, 1882; Types of Ethical Theory, 1886; Study of Religion, 1888; State of the Study of Religion, 1888; Seat of Authority in Religion, 1890; and religious poems and hymns. M. was a man of very elevated character and powerful intellect; of great acuteness, candour, and openness to now ideas. He was D. of Edinburgh, 1884, and D.C.L. of Oxford, 1888. Martinez de la Rosa, Francisco

(1789-1862), a Spanish statesman and man of letters, born in Granada. He took part in the national cause when Spain was invaded by France (1808) by being sent to Gibraltar to nego-tiate with the British government, who aided him, and so caused the French to evacuate Madrid by the victory of Bailen. In 1809 he came to England in order to study the in-stitutions. In 1812 Martinez was elected deputy to represent Granada in the Cortes, where he identified himself with the Liberal cause as to raise the hostility of Ferdinard VII., who banished him to Gomera in Africa for ten years, but he was recalled by the revolution of Riego (1820). In 1820 he was again elected to represent Granada, and in 1821 he undertook to form a ministry, but he had to resign in June the same year and took refuge in France, where he continued to reside for about eight years, during which time he occupied various political offices until 1861—twice being chief minister. One of his ministries is famous in the history

Martinengo, a tn. of Italy in the prov. of Bergamo, 10 m. S.S.E. of Bergamo. Pop. (com.) 5000.

Martinezia, a genus of small palms with pinnate leaves. M. carvotæfolia is a handsome stovehouse plant.

Martini, Ferdinando (b. 1841), an of

> n at her's

wrote essays, novels, and proverb-plays in the style of Alfred de Musset. In 1879 he founded the Fanfulla della From 1892-93 he was lacked vigour. Minister of Education in the Giolitti Cabinet.

Martini, Frederic (1832-97), a Swiss engineer, was Hungarian by birth and Swiss by adoption. After serving in the Austrian army in the war of 1859. he established machine works at Frauenfeld in Switzerland. Here in 1871 he invented the breech-loading mechanism of the rifle which bears his name—the Martini-Henry. Henry was the name of the inventor of the barrel.

Martini, Giovanni Battista (1706-84), a Franciscan monk, commonly called Padre M., and celebrated as a writer on music. His chief works are: Saggio di Contrapunto, 1774-75 (essay on counterpoint), and Gloria della

Musica, 1757-81, a work in three volumes on the history of music.

Martinique, an island of the Windward group, W. Indies, belonging to France. It is very irregular in form, and is about 50 m. in length from N.W. to S.E., by about 15 m. in mean breadth. Area 382 sq. m. The surface is uneven and mountainous, and has several volcanoes. The highest point in the island is the volcano Mont Pelee which rises to the height of 4450 ft. An eruption of this volcano in 1902 destroyed the town of St. Pierre with all its inhabitants, some 26,000 lives being lost. The principal productions are sugar, coffee, cocoa, etc., the trade amounting to about £1,500,000 amounting to about £1,500,000 annually. The coast, being indented by numerous bays and inlets, affords many good harbours. Fort de France is the chief town and the political capital. It is also the principal naval station of France in the W. Indies. M., the native name of which is Madiana, was discovered by the Spaniards in 1493, and colonised by the French in 1635. It was taken by of Spain by the treaty with Lord the English in 1762, and again in 794 and 1809; and was finally given o to France in 1814. Pop. 182,000. Martinmas, the feast of St. Martin Tours, Nov. 11, and in Scotland one

the four term-days for paying rent. Martino, Edouardo de, a marine ainter, born at Malta, near Naples, and appointed marine painter in ordinary to Queen Victoria in 1875, when he came to England. His works include sketches taken during the Paraguayan War, and four pictures of the battle of Trafalgar.

Martino, Simone di (1283-1344), an Italian painter, born at Siena, and of

Martinsberg, a tn. of Hungary, 12 m. S.E. of Raab. Celebrated for its

Benedictine abbey, which has been ! in existence for nine centuries. It has a fine library and a rare collection of Pop. 3000.

Martinsburg: 1. A bor. in Blair co., Pennsylvania, U.S.A., in a fertile valley known as Morrison's Cove, valley known as autrison a Core, 15 m. S. by E. of Altoona Pop. (1910) 1200. 2. A tn. of W. Virginia, U.S.A., co. seat of Berkeley co., 65 m. N.W. of Washington. Pop. (1910) 10,698.

Martin's Ferry, a banking city of Belmont co., Ohio, U.S.A., 2 m. from Wheeling. Coal is found in abundance, and there are engine and machine works, glass works, tin mills, etc. Pop.

(1910) 9133.

Martius, Karl Friedrich Philipp von (1794-1868), a German naturalist and traveller, born and educated at Erlangen. In 1817 he went to Brazil with an exploring expedition sent out by the governments of Austria and Bavaria. He was nominally in charge of the botanical department, but his account of his travels (published in 3 volumes) includes observations in ethnography and general natural He afterwards became science. director of the Botanic Garden (1820) and professor of botany (1826) at Munich. Among his works are: His-toria Naturalis Palmarum, 1823-53; Reise nach Brasilien, 1824-31; Nova Genera et Species Plantarum, 1824-32; Icones Plantarum Cryptogamicarum, 1825-34, etc.

Martos, a tn. of Andalusia, Spain, 10 m. W.S.W. of Jaen, on a steep hill. Noted for its wines and mineral waters. Pop. 16,500.

Martyn, Henry (1781-1812), an English missionary, born at Truro, who after a brilliant career at Cambridge in mathematics and classics came under the influence of the famous preacher, Rev. Charles Simeon. In 1805 he left for India as he decided to devote his life to the work of a missionary. At Dinapore he translated the N.T. into Hindustanee, and superintended the Persian translation of the N.T. of N. Sabat's and Sebastiani's. At Shiraz in Persia he revised the Persian and Arabic translations of the N.T., also completed a new translation of the Psalms. He died of fever at Tokat.

Mariynia, a genus of annual and perennial plants with tuberous root stocks of the order Pedalinaceæ. M. fragrans is easily grown in the green-house, and bears racemes of crimsonpurple flowers followed by two-horned fruit which is used in pickles.

Martyr (Gk. μάρτυρ, οτ μάρτυς, a witness), a term used to designate those people who in the conflict beconvictions by sacrificing their lives of Lord Fairfax, and, later, of Crom-

rather than abandon their faith. Many instances are recorded, and the number is probably exaggerated, but that there were many who suffered for the truth's sake is certain. Such persons who met their death, often in cases of the utmost heroism, were regarded with the greatest admiration by their fellow-men, and it was considered a special privilege to receive the benediction of a M., to visit him in prison, or to kiss his chains. Then, too, after death he was regarded as a saint, his grave was the scene of pilgrimage, his clothes, por-tions of his body, books, etc., were honoured as relies, and the day of his martyrdom was celebrated with peculiar honour as his natal or birth The first recorded M. of Christianity was Stephen, an account of whose death is given in Acts vi. and vii., and the proto-martyr of Britain was Alban of Verulam, who suffered about 286 under Diocletian. The use of Martyrology, a list or catalogue of Ms. or saints, arranged in the order of their anniversaries, is common to both the Latin and Greek church (although in the latter it goes under a different name, i.e. menology), and was intended as a guide to the faithful in their devotions. The most important ancient martyrology is the Hieronymian, falsely said to have been compiled by St. Jerome, and next to this came the Lesser Roman and Bede's martyrology, the last of which has come down to us in that Florus of Lyons; Rhabanus Maurus (c. 845): Ado of Vienne (d. 875); Usuard of Paris (c. 875), the most famous, on which the Roman martyrology was based: Notker (896), and St. Gall (912). The official 'Roman martyrology,' designed for the entire Church, was published in the time of Gregory XIII. (1584), and two years leave the control of the control o later Baronius published an anno-tated edition. The best known list of the Greek Church, or 'menology,' was that compiled by order of the Em-peror Basil, the Maccdonian, in the 9th century. This was edited in 1727 by Cardinal Urbini. In 1866 Mr. Wright, in the Journal of Sacred Literature, published a Syriac martyrology which had been written about 412. Marugame, a scaport of Japan, 80 m. W.S.W. of Kobe, on the island of Shikoku. Pop. 25,000.

Maruts, Vedic storm and wind gods, companions of Indra. In ancient mythology the sons of Rudra and Prisul, in later the sons of Kasyapa and Diti.

cople who in the conflict be-Paganism and Christianity for his verses, and about 1650 was bore 'witness' to the truth of their appointed tutor to Mary, daughter

well's ward. William Dutton. and in 1657 became his assistant in the Latin secretaryship. Three years later he was returned to parliament by Hull, and he represented that constituency until his death. In 1663 he accompanied Lord Carlisle as secretary on a mission to the courts of Russia, Sweden, and Denmark, and published an account of the embassy (1669). He wrote verses eulogising Cromwell, notably Ode upon Cromwell's Return fromIrcland, and the lines Upon the Death l Pro-

wrote other

members of the reigning house. He was an active pamphleteer. His principal prose works are: The Reharsal Transposed, 1672, and An Account of the Growth of Popery and Arbitrary Government in England, 1777 His poems were first collected in 1681, and the best edition is that edited by G. A. Aitken in 1892. There are biographies by Dove (1832) and Birrell (1905).

Marwar, see Jodhpur.

Marx, Heinrich Karl (1818-83), the 'Father of Scientific Socialism' (i.e. modern as opposed to earlier or Utopian Socialism), was a German subject of Jewish extraction, born at subject of Jewish Carring the so Treves. After starting the so Phoinische Zeilung the soon-Cologne he went to Paris, where he was converted to Socialism by reading

came to London, which he made his permanent home. Hereafter he de-

and Spargo. See also ANARCHISM; INTERNATIONAL THE; and SOCIALISM. Mary, The Virgin, the mother of Jesus. Little is told us concerning her in the Gospel narratives. We are told of the announcement to her by the angel that she should conceive a Son by the overshadowing of the Holy Ghost, and then of the events connected with the birth of Jesus. From this we learn that she was espoused to a carpenter named Joseph, belonging to the house of David. After the events dealing with the infancy of our Lord narrated by St. Luke, we have but few mentions of her. We are told of the incident at Cana (John ii.), her presence when Jesus was preaching (Mark iii. 31), her presence at the foot of the Cross (John xix. 26), and the word of our cellor. She was brought up in the

He! Lord consigning her to the care of made the acquaintance of Milton, St. John. Nothing is told us of her and in 1657 became his assistant in death. Tradition and legend have not shown the delicate reserve of the evangelists. The 'poisonous apocry-phal books' tell us all about the birth and childhood of the Virgin and many details about the birth and childhood of her Son. The tradition of her later life, death, and assumption is well known. The veneration of the Virgin Mary occupies a considerable place in the ritual of the Roman Catholic See article in Hastings' Church. Dictionary of the Bible.

Mary I. (1516-58), Queen of Eng-

land, the elder daughter of Henry VIII., by his marriage to Catherine of Aragon. Like all the Tudors, she received a good education and was a distinguished linguist and scholar. She was brought up in the faith of the Catholic Church and nothing afterwards would induce her to be unfaithful to her religion. After the divorce of her mother, she was treated with harshness by her father, being deprived of her rank and precedence, and made to live in a secluded, restricted manner. After her father's death, she hved in retirement, until the death of Edward VI. called her, in 1553, to the throne of England. She was the popular choice of the country and easily put down the movement in favour of Lady Jane The main conspirators were executed, and M. proceeded to restore the old religion as cautiously as she possibly could, but finally lost her popularity by her marriage to Philip II. of Spain. Wyatt's rebellion was quelled, but Lady Jane Grey and her beat the state of the state o husband were executed, and even the Princess Elizabeth spent some time in the Tower. In 1554 her marriage with Philip took place, and the religion of the country was restored to that of the time of Henry VIII. Then began the period of persecutions which have given M. the title of Bloody Mary, and the reign the character of one of the blackest of

our annals. At least 300 ' heretics were put to death at the stake. Finally, in 1558, M. died, deserted by a husband to whom she had borne no children, and heartbroken by the desolateness of her life and by the loss oesomeness of ner me and by the loss of Calais, the last English possession in France. Usually condemned as

Protestant faith, and was married to her cousin, William of Orange, Stat-holder of Holland, in 1677. Eleven rears later she ascended the throne of England as joint-sovereign with her husband, after the revolution of 1688. Her husband had a great affection for her, and trusted her with the government of the country during his absences on the Continent and elsewhere. She died in 1694 of small-

pox, leaving no children. Mary (Queen Consort of George V.), daughter of the Duke and Duchess of Teck. She was born at Kensing-ton Palace on May 26, 1867, and was given the names Victoria Mary Augusta Louise Olga Pauline Claudine Her early childhood and Agnes. youth was spent chiefly at the White Lodge, Richmond. In 1892 she was affianced to the heir-apparent to the throne of England, H.R.H. the Duke of Clarence. In the same year, however, the Duke died, and the Princess Mary was in the following married to Prince George, then Duke of York, who had by the death of his brother become the ultimate heir to the throne. She has accompanied her husband on most of his great tours, and has become exceedingly popular throughout the empire. Her last great tour was the journey to India almost immediately after the coronation.

Mary of Guise, called also Mary of Lorraine (1515-60), the daughter of the Duke of Guise. She married, in 1534, the Duke of Lorraine, who, however, died in 1535. She next however, died in 1535. She next married James V. of Scotland, to whom she bore a daughter, afterwards the famous Mary Queen of Scots. After her husband's death at Solway Moss (1542), she became regent for her week-old daughter. The times in Scotland were troublous since the Reformation party was struggling against the court party for the recognition of the Reformed religion. Mary attempted to carry out the ambitions of the French crown in Scotland, but her regency

did not last long.

Mary Queen of Scots (1542-87), the daughter of James V. of Scotland by his marriage to his second wife Mary of Guise. She was born immediately after the disastrous defeat at Solway Moss (1542), and was a queen before aloss (1942), and was a queen before she was a week old. Her father on his death-bed made the famous and mistaken prophecy, 'It came with a lass it will go with a lass.' She was promised to Edward VI. as wife, but finally after the battle of Pinkie married the Dauphin of France, son of Henry II. She was sent to France

by the marriage treaty the crown of Scotland to the King of France in the event of her dying childless, and also passed on by the same treaty her right of succession to the English crown. In 1559 her husband became the King of France, but he died in the following year. Charles IX. the following year. Charles IX. succeeded to the throne of France, and the real power passed into the hands of Catherine of Medici, the queen mother. In the meantime, the queen mother. In the meantime, the death of the queen mother in Scotland, Mary of Guise, had left the government without a head, and the presence of the young queen was urgently requested, especially since the Reformation had already gripped Scotland very closely. In 1561 she arrived in Scotland and found that the Beformation had required what the Reformation had received what it considered to be a parliamentary sanction for itself. M. did not inter-fere, in fact for a time she allowed matters to follow their previous course. She allowed the Reformed Church to continue without molestation, but stipulated for a private use of her own faith. Her chief minister, Murray, succeeded in crushing an insurrection of the Catholics under the Marquis of Huntley in the north, and for a time M. reigned not only in peace but also with the approbation of her subjects. Her attention, however, was next turned to her second marriage. A number of princes were proposed to her, Elizabeth of England quixotically proposing her own favourite, the Earl of Leicester. M., however, desired a Spanish marriage, and endeavoured to bring about her marriage with Don Carlos of Spain. It is important to bear in mind the fact that M. was the heiress to the English throne as well as the occupant of the Scottish, and that, therefore, in the eyes of Europe, her position and prospects were magnificent. Failing in her attempt to bring about a marriage with Don Carlos, she suddenly surprised everybody by marrying her cousin Darnley, the nearest heir after her to the throne of England and Scotland was weak in character and insolent in manner; immediately after his marriage he was given the title of king, but was granted but few privileges to accompany the title. He carly disgusted M. by his frequent 'love' intrigues, and he in turn, failing seemingly in his attempt to gain his desires and ambitions towards the Scottish crown, began to intrigue in order to bring about these ends. He was jealous of Rizzio, the Italian favourite, and the practical of Henry II. She was sent to France at an early age, and there her education was completed. She conveyed murder him. This was done in Holyton was completed.

rood Palace on the evening of March 9, 1566. M., however, won Darnley from the conspirators, whom rood he betrayed, and for a time their relations were friendlier. Finally, after the birth of James, their son, afterwards James VI. of Scotland and It of England, the rupture became complete, and later all Scotland was horrifed to learn that the house in which Darnley laid ill of smallpox had been blown up and his body found in the garden of the house. The queen could not be directly accused of complicity, but there were many who believed that she was not altowho believed that she has been the gother guiltless, especially as the chief instigator of the murder had been her new favourite. Bothwell. He was new favourite, Bothwell. He was brought to trial and acquitted, im-mediately after which he seized the person of the queen and conveyed her to Dunbar, nominally a prisoner, All Scotland, however, had no doubt of the complicity of M. in the murder and the abduction when she publicly pardoned Bothwell, and after he had obtained a divorce married her. An insurrection immediately broke out and she, deserted by almost all her nobles, was defeated at Carberry, nobles, was defeated at Carberry, forced to abdicate in favour of her roung son, and imprisoned in Loch Loven Castle. From here, in 1568, she escaped, raised a small army, and was again defeated at Langside. She fled this time and placed herself under the protection of Elizabeth of Englon was diffi-

not approve e queen, she

M. to escape from her now, since M. was her greatest rival. M., therefore, found herself a prisoner for life. During the next nineteen years she passed from prison to prison in England. She had many supporters in that country, and one long conspiracy was kept up during her imprisonment. One may almost safely say that Eliza-beth's position was unsafe as long as M. lived. Finally, in 1586, the con-spiracy of Anthony Babington was discovered, and M. was necused of complicity. The whole evidence was complicity. The whole evidence based on the authenticity of the M. denied com-Casket Letters. plicity as she denied the jurisdiction of the court which tried her. Finally, however, she was found guilty and sentenced to death, and in February Elizabeth signed the 1587 warrant. She was executed on Feb. 8, and died in the eyes of her followers a martyr, protesting her innocence and strong in the faith of the Catholic Church. Buried first of all at Peterborough, her body was in 1612 re-moved to Westminster Abbey by her son James I.

Maryborough: 1. A tn. of Ireland. cap. of Queen's co., is situated on a small trib. of the Barrow, 50 m. S.W. of Dublin. It has several good public buildings. It returned two members to parliament until the Union, when it was disfranchised. It has woollen manufs. and flour mills. Pop. (1911) 3270. 2. A tn. of March co., Queensland, 184 m. N. of Brisbane. It owes its importance to the proximity of the ar by are large

110. 3. A tn. 110 m. N.W. of Melbourne. Gold mining is carried on, and the tn. is an important railway junction, with large engineering works. Large crops of wheat and oats are grown in the surrounding district. Pop. 5675.

Mary-golds, see Calendula.

Mary-goids, see Calendula.
Maryland, a maritime state of the
U.S.A., bounded on the N. by
Pennsylvania; on the S. by Virginia,
W. Virginia, and Chesapeake Bay;
on the E. by Delaware and the Atlantic, and on the W. by Virginia and
W. Virginia. It covers a total area of W. Virginia. It covers a total area of 13,327 sq. m., and lies in three distinct regions, viz. the Coastal Plain, Piedmont Plateau, and Appalachian Plateau, the last named being traversed by the Blue and Alleghany Mts. The most important river is the Potomac, which drains the W. portion of the state. Other rivers are the Susquehanna, Patapsco, Chop-tank, Sassafras, Wiconico, etc. The climate varies greatly; in the S. the normal winter is mild and summer hot, whereas in the W. the normal winter is cold and summer cool. The state contains important coal fields and a considerable variety of soils. On the whole, the soil is well adapted for agriculture and under good cultivation. It is particularly fertile in the western counties. The chief crops Indian corn, potatoes, rye, tobacco, and fruit. The fisheries, especially of oysters, The insieries, especial, of Joseph are extensive. The chief town is Baltimore (pop. (1910) 558,485), but Annapolis (pop. (1910) 5609) is the seat of government. The most imseat of government. The most important industry is the manuf. of clothing. There is an excellent system of free public schools and a number of higher educational institutions. Total pop. (1910) 1,295,346. M. was named after Henrietta Maria, queen-consort of Charles I. of England, It was first explored by Captain John Smith in 1608. A charter granted by Charles I. to Lord Baltipromote by Charles 1. to Lord Battlemore gave him practically royal power over the region. In 1638 the people were conceded the right to initiate legislation. The assembly passed the famous Act of Toleration

Marylebone, a bor. in the N.W. quarter of London, divided into E. and W. divisions, each returning one member to parliament. It comprises Portland Place, Regent's Park, Park, Cavendish, Portman, Manchester, and Fitzroy Squares. and the upper part

of Regent Street.

Mary Magdalene, see MAGDALENE, MARY.

MARY.

Maryport, a seaport of Cumberland, England, on the Ellen, 28 m. S.W. of Carlisle. So called from the landing here of Mary Queen of Scots on her flight from Scotland. Has shipbuilding yards, iron foundries, tanneries, hreweries, etc. The exports consist principally of each and iron. consist principally of coal and iron. Pop. (1911) 11,423.

Marysville: 1. A city in Yuba co., California, U.S.A., 41 m. N. of Sacramento. It has an extensive trade, and is at the head of naviga-Has an iron foundry, woollen mills, fruit canneries, etc. Pop. (1910) 5430. 2. A post vil. of Hastings co., Ontario, Canada, 34 m. W. of Trunk

Ontario, Kingston, on the Railway. Pop. 2000. Masaccio ('shiftless') (1401-28), of Thomas Guido, a Cha Arno Florentine painter, born in the Arno Valley. He is sometimes called the 'father of modern art,' and is celebrated for his frescoes in the Brancacci Chapel in the Carmine and in Sauta Maria Novella at Florence, which have been a school of instruction for all succeeding painters. He also painted several pictures now in the Berlin Museum. See monograph by

Schmarsow, 1895.
Masailand, a dist. in E. Africa, stretching W. to Victoria Nyanza, so named from the tribe of Masai who constitute the chief inhabitants. The region is of an elevated nature, the chief mountain masses being the chief mountain masses being the Kilimanjaro, Kenia, and Aberdare. It contains Lake Naivasha in the S., Lake Rudolf in the N., besides others of less note. The country is now included in the British E. Africa Protectorate. The Masai are a nomad people of Negro-Hamitic stock, and speak a Nilotic language. They Nilotic language. support themselves chiefly by cattle-raising. See Gregory, The Great Rift Valley.

Masampo, in Korea, a former free port of foreign commerce on the S.E. coast, 180 m. S.E. of Seoul. It was closed to foreign trade from Jan. 1,

1911.

Masaniello, properly Tommaso

In 1649. In 1652 the colony was selzed by the commissioners of parliament, but was restored to Lord Baltimore in 1657. M. was one of the thirteen original states. See Passano's History of Maryleone, a bor. In the N.W.

Marylebone, a bor. In the N.W. and was assassinated by the vicerov's agents.

Masara, El, a vil. of Egypt, 10 m. S. of Cairo, in the prov. of Gizeh. It is opposite the site of the ancient

Memphis and has celebrated quarries.

Masaya, tn. of Nicaragua, 13 m.

W.N.W. of Granada, near the lake, and at the foot of the volcano, both

and at the 1005 of the volcano, both of the same name. Pop. 15,000.

Masbate, one of the Philippine Is., S. of Luzon and W. of Samar. Length 60 m., breadth 20 m., and it covers an area of 1230 sq. m. Gold is found, and it is very fertile, yielding tobacco, gums, resins, etc. The chief tn. is Mascagni, Pietro (b. 1863), an Italian operatic composer, been in

Italian operatic composer, born in Leghorn, was educated there and at the academy in Milan. He was first manager of a travelling opera com-pany, then manager of a musical society at Perignola near Naples. His first opera, In Filanda (1881) created no impression, but his next work, a one act opera, Cavalleria Rusticana (written for a prize com-Rusticana (written for a prize competition), made him world famous; this was first staged in Rome on May 17, 1890. His other works are L'Amico Fritz, 1891; Rateliff, 1894; Zanetto, Sitvano (both 1895); Iris, 1898. Mascara, a tn. of Algeria, 45 m. S.E. of Oran. The former residence

S.E. of Oran. The former residence of Abd-el-Kader, it was destroyed by the French in 1853 and occupied by them in 1841. Pop. 21,000.

Mascarene Islands, a group comprising Mauritius, Réunion, and Rodriguez Is. in the Indian Occan. Recombined to the company of union was discovered in 1545 by the

Portuguese, Mascarenhas, who called the group after himself. Mas-d'Azil, Le, a tn. in dept. of Ariège, France, 12 m. W.S.W. of Ariege, France, 12 m. W.S.W. of Pamiers. Has an interesting cavern in a limestone hill, forming a natural tunnel, and a grotto with prehistoric remains. Pop. about 2000.

Masdevallia, a genus of epiphytal chids. The three sepals of the flowers are brightly coloured, and their points are extended into long tails. They are borne singly, in most cases, on a scape which springs from the base of the stalk of the stout

leathery lance-shaped leaves.

Masefield, John, an English writer.
He is notable as one of the pioneers in the revival of the long narrative poem in English. His works include: Salt Vater Ballads, 1902; Ballads, 1903; A Mainsail Haul, 1905; On the Spanish Main; Lurists of the Restoration; Essays Moral and Polite; At the Mashonas and other Makalanga Sailor's Garland, 1996; Captain tribes. A pioneer force was sent into Margaret (novel); The Tragedy of M. under Colonel Pennefather, and War (play); Mullitude and Solitude settled on the sites which are now the (novel), 1909; The Street of To-day (novel); Poems and Ballads, 1910; Charter. A dispute with the Portu-William Shakespeare; The Everlasting Mercy (poem); Dauber (poem). 1913.

Maseres, Francis (1731-1824), an English mathematician, historian, and reformer, born in London. 1752 he graduated at Cambridge, and six years later was called to the bar. He acted as attorney-general of Quebec from 1766-69, and from 1773-A was baron of the exchequet. His publications include, Doctrine of Permutations and Combinations; Dissertation on the Use of the Negative Sign in Algebra; Scriptores Optici; A View of the English Constitution, etc. Charles Lamb in his Old Benchers of

the Inner Temple introduces Maseres. Maseru, a dist. of Basutoland. Chief tn. and settlement of the dist.

Is Maseru, 100 m. N.N.E. of Aliwal North. Pop. 1300 (200 whites). Masham, a small tn. in the N. Riding of Yorkshire, England, 8 m. N.W. of Ripon, on the North-Eastern Railway, and on the R. Ure. Pop. (1911) 3110.

Masham, Abigail (d. 1734), was daughter of Francis Hill, a merchant of London, who married the sister of

'relative, ured her to the ined her

situation after the princess ascended the throne, and acquired great inthe throne, and acquired great in-fluence over her. Miss Hill married Mr. Masham (son of Sir Francis Masham, of Otes in Essex) in 1707. Harley, afterwards earl of Oxford, connected himself with the new favourite; a change of ministry took place, and in 1711 Mr. Masham was raised to the peerage, wife appear to have He and his engaged in intrigues in favour of the Stuarts.

tribes are the Mashonas, a pence-loving people. Our earliest informa-tion of the country records the settlement of the Bantu negroes, in the 10th century, whose hereditary chief, Monomatapa, had his capital in M. The people appear to have entered into a commercial treaty with the Portuguese. But through a succession of tribal wars they lost cohesion. The next we hear is of the Matchel and Education of the Tales. Matabele, an offshoot of the Zulus, whose chief, Mositikatga, entered into rites the in a home and to croite a treaty with the governor of Cape terror in the interest in the croite at the colony. From about 1816 to 1870 the use of the colony in the croise cere-

guese, who claimed a tract of territory, was settled by force of arms in which the British S. African Police were the victors. The Matabele resented British occupation, with the result that Dr. Jameson, Major Forbes, and Allan Wilson raided their native kraals. Wilson and his force were slain as the result of the Shangani R. rising and preventing reinforcements. Lobengula, their chief, died in 1894, thus quelling for a while the Matabele spirit. They and the Mashonas revolted, however, in 1896, but their resistance gave way in 1897. The first meeting of the Rhodesian Constitution was held at Salis desir

national unity. Industrious and generally peacoful, they make very successful farmers. They excel in the crafts, the smelting and forging of iron, in pottery, and weaving. They are good hunters, fond of music, and use the bow and arrow, assegai, and

axe. The Mashonas were anciently supposed to be the builders of the ruins of Zimbabwa, which show that a large population at one time inhabited Southern Rhodesia. Pop. 480,000, including 9000 Europeans. See J. T. Bent's Ruined Cities of Mashonaland, 1892.

Maside, a com. in prov. of Orense, Spain, 10 m. N.W. of Orense. Pop. about 6500.

Masinissa (c. 238-149 B.C.), King of the Numidians, ruler of the Massylians in Eastern Numidia, and later King of Numidia. He fought in the second Punic War, first as an ally of the Carthaginians, and afterwards of the Romans, when he served with Scipio against Syphax (201-203) and in 202 at the battle of Zama. He reigned till 148 B.C., and was given most of Syphax's territory after the conquest of Carthage.

Mask (Fr. masque, from Lat. mascus, masca, spectre), an artificial covering for the face, in divers forms, and worn for various reasons. disguise the mask is generally asso-ciated with the artificial faces worn by actors in the Roman theatres, a custom transmitted by them to the Italian stage of the middle ages, and also practised in the English masque of Elizabethan times. In savage monics is common among the Indian. African, and Eskimo tribes. In the case of death-masks, the term is used for portrait casts, either of plaster or metallic foil, taken from the face of a dead person. Masquerade is a variation of the same word, used for masked balls or entertainments of a like nature, where the personages are

disguised. (1732 - 1811).Maskelyne, Nevil (1732 - 1811), graduated at Trinity College, Cambridge, in 1754. In 1755 he took orders, but he had previously been In 1755 he took led to turn his attention to astronomy by the solar eclipse of 1748. In 1761 by the went to St. Helena to observe the transit of Venus, and to detect, if possible, the parallax of the fixed stars. In 1764, he acquired that knowledge of nautical astronomy which led to the formation of the Nautical Almanac. In 1765 he was appointed astronomer-royal. Delambre dates the commencement of modern astronomical observation from M., who

nomical observation from M., who first gave as standard eatalogue of stars.
Mason, Alfred Edward Woolley (b. 1865), novelist, has written many stories, of which the best are: The Courtship of Maurice Buckler (1896), Miranda of the Balcony (1899), both of which have been dramatised by the author; The Four Feathers (1902), Running Water (1907), and The Broken Road (1907). These novels are all in the romantic vein. His comedy, Colonel Smith, was produced in 1909. M. sat in the Liberal interest for Coventry in the House of in 1909. M. sat in the Liberal interest for Coventry in the House of Commons from 1906 until 1910, when he retired from active participation in politics.

Mason, George Heming (1818-72), an English painter; spent some years in Rome, and whilst in that city painted his 'Ploughing in the Campagna.' His finest paintings are 'The Evening Hymn' (1868) and 'Harvest Moon' (1872), both somes from his neity Staffordship. scenes from his native Staffordshire.

Mason, John (1586-1635), governor of Newfoundland in 1606. In 1622 he obtained grants in Mariana (now N. Massachusetts) and the province of Maine, and in 1629 in New Hamp-shire and Laconia. Buried in West-

minster Abbey. Mason, Sir Josiah (1795-1881), an English pen-manufacturer; began life as a street-hawker, and after many and varied experiments set up a factory for making steel pens, which proved eminently successful. endowed an orphanage at Erdington. and also Mason College, which is now a part of Birmingham University.

He was a profound admirer of Grav. who praised his dull classical tragedy Caractacus (1759), but pointed out also his plagiarisms and his grammatical and other blunders, M. edited the Life and Letters of Gray (1774).

Mason and Dixon's Line, the boundary line (lat. 39° 43' 26'3" N.) separating Maryland from Pennsyl-Mason and Dixon were two English astronomers who surveyed it between 1763 and 1767, and thus put an end to the disputes between the Baltimores and Penns, the respective proprietors of the two colonies. This line was part of the boundary between free and slave (Northern and Southern) states. Since 1820 it has been a popular name for the whole of that boundary.

Mason City, the cap. of Cerro Gordo co., Iowa, U.S.A., 115 m. N.N.E. of Des Moincs. Its chief manufs. are bricks, cement, and tiles. It has also foundries and machine shops. (1910) 11,230.

Masonry, the art of building in stone in a similar manner to building in brick; the fundamental difference between masonry and brickwork (q.v.) being that in the former the stones are of irregular and heterogeneous shape and size, as opposed to the uniform mass of bricks. This renders it very difficult in many cases to obtain a bond in the work, and the walls in most cases must be uncounted than brick walls. Masonry, however, from these features, is better suited to imposing and beautiful structures, as work of greater projection can be included than is possible in brickwork. The art of structure the walls in most cases must be thicker sible in brickwork. The art of masonry is of great antiquity, the pyramids of Egypt being perhaps the most noteworthy examples in the world of masonry without mortar. world of masonry wholes he tools which a mason uses in-clude squares, hammers, 'boasters, chisels. saws, axes, picks, 'spaichisels, saws, "na" hammers, wedges, nippers, c. The manner in trammel heads, etc. which the stones are treated, either before or after building, is described in various technical terms. Scrab. bling is taking off the salient angular projections of the stone; when the latter is used in this condition the work is called 'rustic' work. Ham-

stone which has been roughly leveuca. whilst plain work has been more accurately smoothed. Combcd work has been treated by a steel scraper or comb': boasted or droned work Mason, William (c. 1724 - 97), an has parallel chisel marks, which do Euglish poet, attended St. John's not extend quite across the surface, College, Cambridge. From 1754 he as in tooled work. Sunk work is held various livings in the Church. below the level of the surrounding

stone, moulded work is work formed with a change of curvature, whilst Maspero, Sir Gaston - Camille chisel draughted margins are smooth narrow spaces enclosing corribed, logist; entered the Ecole Normale boasted, or plain work. Rubbed Supere of Paris in 1865, and bework is rubbed with another st and with sand, water, etc., wl polished work is brought to a l polish. When the foundation

rock, the walls can be begun at once. When there is a firm subsoil large flat stones having a greater superficial area than the walls themselves must form the foundation, and where the ground is marshy, piles sur-mounted by a concrete foundation course are necessary. All joints in M. must be at right angles to the pressure which they have to bear.
Stone walls may be divided into

three main classes, according to the manner in which the stones are set up: rubble, block in course, and ashlar. The first category includes many and various methods, of which the chief are known as flint, random rubble set dry, random rubble set in mortar, Kentish rag, random rubble bullt in courses, uncoursed, squared or 'snecked' rubble built up to courses, and regular coursed rubble. Rubble as a generic term means thinly bedded stone, generally less than 9 in. in depth; when it is of irregular shape it is 'random,' when squared into shape it is said to be 'coursed.' The various kinds of rubble walls thus explain their composition by their names. In random rubble by their manners. In tanada set in mortar the bond is obtained by using one bond stone in every superficial yard in the face. In flint work, windows and door-dressings, and groins, are set with brick or squared stone for strength and 'Kentish rag' is built appearance. of a kind of unstratified sandstone which is found largely in Kent, and the blocks of which are usually roughly dressed to a polygonal form. Snecks ' are small stones which are inserted where required in snecked rubble to prevent long vertical joints. Block in course work is made of stones larger than those used for coursed rubble, with hammer-dressed faces, squared and brought to a good joint; it resembles good coursed rubble or ashlar, and is very strong and durable. Ashlar is the name given to carefully worked stones of more than 12 in.; owing to its heavy cost ashlar 12 in.; owing to its heavy cost ashlar is backed either by brickwork or rubble. The backing should be built in cement mortar, and brought to a level at every bedjoint of the ashlar, the facing of which may be plain, rebated, or chamfered. See I. O. Baker, Masonry Construction, 1909; C. F. and G. F. Mitchell, Brickwork and Masonry, 1908.

Masonry, Free, see FREEMASONRY.

year 1000-01, when he was in agypt at the head of an archæological mission, which afterwards became the Institut Français de l'Archéologie Oriental. In 1881 he discovered many royal sarcophagi at Deir-el-Bahari. and he made further discoveries in clearing the Temple of Karnak. M. founded and directed the Recueil de travaux, but his most valuable Histoire publication is ancienne l'Orient des peuples de classique. 1894-1900.

Masque was a species of dramatic entertainment which reached its highest popularity in the reign of James I., but which was also a favourite diversion at the courts of Henry VIII. and Elizabeth. 'Essential masque,' says the Rev. Ronald Bayne, 'was the appeal of the moment to the eye and the ear, the blaze of colour and light, the mist of perfume, the succession of rapidly changing scenes and tableaux, crowded with wonderful and beautiful figures. Many look to Italy for the origin of the M., but it seems at least likely that it grew out of the 'mummings' which are heard of in England as early as 1377. The growth of opera accounts for the speedy waning of the M.; in the latter pageantry and spectacular display were of supreme importance, whilst in the former these were rightly subordinated first of all to music and then also to characterdrawing and plot. Ms. were played commonly before royalty and in the homes of the nobility. Thus Daniel's Vision of the Twelve Goddesses was produced at Hampton Court in 1604, ether its after Lunes's goeseing. shortly after James's accessionwhen, be it noted, Queen Anne and her ladies were the masquers-and The Masque of Queens of Ben Jonson was presented at Whitehall in 1609. The Hymencei, also by Jonson, was performed in 1606 to celebrate the marriage of Essex with Frances Howard, whilst his Pleasure Reconciled to Vertue was played at court on Twelfth-night in 1618. It was this libretto of Jonson, the great master of the literary r Milton's Comus described as a

there is no dancing nor disguise. Inigo Jones often designed the scenery, dresses, and mechanical contrivances: such composers as Lanier and Ferrabosco contributed the music, and the dances were specially arranged by professors of the art. Money, time, and thought were freely lavished, the sole aim of the inventor being to multiply his gorgeous effects, and to make the spectacle as full and varied as he could.

Masquerade, a festive gathering. the participators in which all assume some disguise. The name suggests that when Ms. first came into vogue, the masque was a necessary part of the disguise. Ms. first appeared in England in the reign of Henry VIII.: they were introduced into France by Catharine de' Medici. Fancy-dress balls are, it would seem, their modern development.

Mass, the term used in physics to denote the quantity of matter in a Weight (q.v.), with which it body. should not be confused, is proportioned to M. See WEIGHT, GRAVITA-TION, ACCELERATION, INERTIA, and

DYNAMICS. Mass (Lat. Missa), refers now to the Eucharist service of the Roman Catholic Church. It is held to be a real offering in which Christ is the victim, and commemorates the crucifixion. Of old, the Eucharist service always included the communion of the faithful, while now only the officiating priest communicates. M. now may be either Low, Chanted, or In the first a priest attended by acolytes reads the service; in the second the service is chanted, not read; and in the third the priest is assisted by deacons, subdeacons, and ministers. The M. includes, of course, the consecration, elevation, breaking, and communion of the Host and of the Chalice. The officiating priest wears five peculiar vestments, of which the colours vary with the occasion. A similar service is held by the Greek and Oriental churches.

Credo, S

Dei all But the

very many more words than the other i portions of the service, and the difficulty which confronts the composer is to avoid emphasising them in a way wholly disproportionate to their St. Gregory religious significance. collected many of the unisonal plainsong melodies. The beautiful Missa Papæ Marcelli of Palestrina averted the condemnation of polyphonic music which the Council of Treut was about to pass. Mozartand Haydn were masters of the instrumental mass, whilst the symphonic is ex-quisitely represented by Beethoven's dramatic Mass in D.

e Carrara, Italy, 26 m. N.W. of Pis, near the Gulf of Genoa. It is here that the Carrara marble quarries are, and silk is also manufactured. Pop. (com.) 26,500.

Massa Lombarda, a vil. 181 m. W. of Ravenna, Italy. Pop. 3000.

Massachusetts, one of the N.E. states of U.S.A., often called the Bay State. Area 8266 sq. m. One of the thirteen original states. Bounded on the W. by Vermont, N. by New Hampshire, and S. by Connecticat and Rhode Island. Eastern shores washed by the Atlantic. Fine rocky coast with many bays, the largest Boston Bay and Harbour. The beautiful Berkshire hills are a favourite summer resort. Inland the country rises gradually, and numerous small lakes are a marked feature of the landscape. The climate is temperate, and the beauty of the spring and autumn in M. is notable. Agriculture was, in the first part of the last cen-, the primary industry, but in the middle and latter part a great tide of emigration towards the western states took place. To-day it is essentially a manufacturing state, the cotton and boots and shoes industries being of prior importance; but a large trade is done in woollen and worsted goods, paper manufacturing and sugar-refining. Boston, a oldest great seaport and the America, is the capital. Other towns are Gloucester, just beyond which lie the great cod fisheries; Lowell, centre of cotton industry; Plymouth, where the Pilgrim Fathers landed (1620); and Fall R., a large seaport on Mt. Hope Bay, 50 m. from Boston. The Puritan ancestry has still a marked effect on the inhabitants of this state, which is very conservative, and which has not been flooded, like the western states, by German immigration. In Mass, the Music of, has naturally been very largely influenced by the nature of the text. The Kyrie, Gloria, and later the great Unitarian molecular of the text. its early days it procured a bad name

made its headquarters in Bos-The imports are large, and there connects with the New York railway systems. The Boston Central Railway terminus is one of the largest railway termini in the world. The educational western in the control of the control cational system is the best possible, and Harvard and Boston Universities with Massa.

a great factor in New England education. The famous War of Independ-Massa, the cap. of the prov. of M. ence was commenced in M., and the victories of Lexington and Bunker's city, 271 m. S.W. of Siena in the Hill settled the fate of America. In the war of N. and S., M. was the state that took the most active part, the feeling against slavery being very cross "The state is very green and the state of the state is very green." Charter is very green with the state of the state is very green. strong. The state is well governed, and has a reputation for culture and advanced thought. It is one of the most populous of the New England states, and its power and influence is second only to New York state. Pop. (1910) 3,366,416.

Massachusetts, North American aborigines, members of the Algon-quin family. The original inhabiquin family. tants of the state which bears their name. Only a small remnant remains of the tribe, a low type of humanity and irresponsive to educational and

religious influences.

Massa e Carrara, a prov. in N.W. Tuscany, Italy, having part of its S.W. coast washed by the Mediter-Area 687 sq. m. Pop. rancan. 220,000.

Massafra, a tn. in the prov. of Lecce, Italy, 10 m. N.W. of Taranto.

Pop. 11,000.

Massage may be looked upon as artificial exercise, applied in illnesses and convalescence, when the usual innumerable movements of the body exciting tissue metabolism are in abeyance or impossible. The operator, passeur, masseur, masseuse, placing the patient in suitable positions, proceeds to aid movements of the limbs and joints; to stroke, pinch, press, knead the muscles. By this means the small muscles, cell tissue of all kinds, capillaries, etc., are agitated, and normal waste and repair of the healthy body promoted. M. has become a distinct branch of the medical art, and careful training as well as expert knowledge is essential for the trained operator, many of whom are Swedes or trained in Swedish schools. A modern extension is the application of vibration, especially to joints in cases of rheumatoid affections, by mechanical or electric vibrators. The mechanical or electric vibrators. treatment has become usual in nervous ailments such assciatica, neuritis, neuralgia, in insomnia, and after fracture of a limb. It has become usual as a treatment for obesity, and as exhilaration or refreshment of the body in cases of persons of sedentary occupations, when it is taken in conjunction with the Turkish bath. It has always been used by athletes, and was in regular use among the Greeks.

Massagetæ, a warlike people of Central Asia, N. of the Jaxartes (the Araxes of Herodotus) and the Sea of Aral. It was in an expedition against them that Cyrus the Great was defeated and slain.

uguensuurg, St. Lawrence co., New York, U.S.A. Chief industries are connected with flour, lumber, paper, aluminium. Pop. (1910) 2951. Massens, André, Duc de Rivoli, Prince d'Essling (1756-1817), a French marshal, was a wine mer-chant's son. In 1775 he joined the Royal-Italien. In 1795 he contuned Royal-Italien. In 1795 he captured Oneglio and drove the Piedmontese from the heights of Saorgio. The following year he enabled Scherer to win the battle of Loano against the Austrians and Sardinians. So brilliant were his successes during the cam-paign of 1796-97 that Napoleon called him 'L'enfant chéri de la Victoire.' From that time onward, till he was repulsed by Wellington in Spain (1810-11), his career was one long triumphal progress, and honours fell thick and fast upon him. In 1805 he received his marshal's baton. Having assured to Joseph Bonaparte the possession of the Neapolitan crown (1806), he was put in command of the left wing of the 'Grand Arméc' in Poland, and was accorded the title of Duc de Rivoli for the splendid services he rendered against the Russian foe. His proudest title, that of Prince d'Essling, was given in recognition of his brilliant generalship at Eckmühl, Essling, and Wagram. After his Spanish campaign (1811), the failure of which he attributed with some justice to the insubordination of Ney, Junot, and other of his licutenants, M. was never again entrusted with any responsible command. better to forget the greed, averice, and lax morality which characterised his private life, and to remember only his military genius, which ranks with the highest.

Massenet, Jules Emile Frédéric (1842-1912), a French composer, attended the Paris Conservatoire, and won the Grand Prix de Rome in 1863. His orchestral suites, entitled Scènes de Bal and Scines Hongroises, were composed during travels in Germany and Hungary. Among his song books are Poèmes d'arril, Poèmes d'un soir, and Chanson des bois d'Amaranthe. The following of his dramatic works have been performed at the Opéra Comique: Manon (1884), perhaps the most popular; Werther (1893), and Sapho (1897); whilst Le Cia (1885) and Thais (1894) were first produced at the Opéra. This indefatigable composer has also written two beautiful sacred dramas. Marie Madeleine sacred dramas, Marie Madeleine (1873) and Eve (1875). The opera entitled Le Jongleur de Notre Dame Massa-Marittima, a small cathedral (1902) nobly illustrates the grace,

wealth of melody, and charming! emotionalism of his music.

Massey, Gerald (1828-1907), a poet, born near Tring, Herts. As a boy he worked in a silk factory, but in 1843 he came to London, where he was taken up by Maurice and Kingsley. His first book was published in 1851, and this was fallenged by four others. and this was followed by four others a selection from these was published a selection from these was published in 1889, entitled My Lyrical Life. Later he wrote and lectured on spiritualism, and produced prose works on the origin of myths and mysteries in The Bool: of Beginnings, 1881; The Natural Genesis, 1883; and Ancient Egypt: the Light of the World, 1907. He also wrote a hock on the 1907. He also wrote a book on the sonnets of Shakespeare.

Massicot, yellow oxide of lead, the monoxide, PbO, sp. gr. 9.3., occurs native, but generally prepared by heating lead or white lead in air up to about 600° C. Mostly used in the manufacture of red lead, the dioxide,

and as a pigment.

Massillon, a city of Stark co., Ohio, U.S.A., 50 m. S. by E. of Cleveland. In this region large quantities of coal are found and white sandstone is quarried. It is also engaged in blast-ing and iron manuf. Pop. (1910) 13,879....

Massillon. Jean Baptiste (1663-1742), a French bishop, joined the congregation of the Oratory, and after lecturing at Pézenas and Mont-brison, entered the priesthood at Vienne in 1692. Seven years later, at the king's own request, he preached the Advent sermons at Versailles. The greater part of his life was passed in Paris, where he was principal of the seminary of Saint Magloire, but in 1717 he accepted the bishopric of Clermont. His sermons were remarkable for their tender compassion and for their freedom from dogmatic disputation; among the finest are those on The small number of the Chosen, on on The small number of the Chosen, on The death of the Sinner, and on The Prodigal Son. Among his contemporaries he was famous because he had pronounced the funeral oration on Louis XIV. Posterity cherishes his Petit Carême, a volume of sermons preached before Louis XV.

Massinger, Philip (1583 - 1640), a dramatist, came to London about 1606, and soon acquired fame as a playwright. In his earlier days from

playwright. In his earlier days, from 1613, he wrote in collaboration with John Fletcher until the death of the latter twelve years later, and one of

The Emperor of the East, The Rengado, A New Way to Pay Old Debts, The Maid of Honour, The Great Duke of Florence, The Unnatural Combat, The Guardian, The Bashful Lover, and The City, Mary The City, Mary The Combat, The Combat, The Combat, The Combat, The Combat, The City, Mary The City, Mar The Guaraian, The Bashjut Lover, and The City Madam. The best collection of his works is that edited by Cunningham (1867). According to Lamb, M. wrote ' with that equability of all the passions that made his English the truth the numer and most free lish style the purest and most free from violent metaphors and harsh constructions of any of the drama-tists who were his contemporaries. M.'s knowledge of the technique of the drama was great, but, while the construction of his plays leaves little to be desired, his characters are often

lifeless. Massingham, Henry William (b. 1860), an English journalist, was educated under Dr. Jessop at Norwich Grammar School. After serving on the staff of two local newspapers, the Norfolk News and the Daily Press, Norwich, he acted as editor in turn of the National Press Agency, the Star, the Daily Chronicle, and since 1907 of the Nation. He has been the special parliamentary representative of the Daily News, and has published Labour

and Protection.

Masson, a vil. on the Canadian Pacific Railway in Labelle co., Quebec, Canada.

Masson, Antoine (1636 - 1700), a French engraver and painter, born near Orleans. He became engraverin-ordinary to the king. His engrav-ings excel in the representation of colour and texture, but are market by a peculiar style of executing hair. His original portraits are of consider-

able merit. One of his best prints is Titian's 'Disciples at Emmaus.'
Masson, David (1822-1907), a man of letters, began his literary career in 1844 with an article in Fraser's Magazine. Three years later he settled in London and contributed to many reviews. In 1853 he was appointed professor of English literature at University College, London, and in 1865 he went to Edinburgh University College. sity to occupy the same chair. From 1859 for eighteen years he edited Macmillan's Magazine. During many years he was engaged upon a monumental Life of Millon, narrated in connection with the political, ecclesiastical, and literary history of his time, the six volumes of which appeared between 1859 and 1880. In 1874 he edited the poetical works of their most successful efforts was Two Milton, and he edited also the works of Milton, and he edited also the works of Goldsmith (1869) and De Quincey (1890). In 1893 he was appointed historiographer-royal for Scotland. Written by M. alone are: The Duke of Milan, The Bondman, The Parliament of Love, The Roman Actor, The Picture, autobiographical.

(1819-88), writer, horn in London; educated at Tours, graduating in the Université de France in 1837; came to England as a tutor, 1847. He was French master at Harrow School (1855-88) and Veubbanill bravian face 1829. and Vaughan librarian from 1869. He contributed to the Athenœum and the Saturday Review, and issued: La Lyre Française, 1867; Early Chronicles of Europe and France, 1879; The Huguenots, 1881.

Massonia, a genus of bulbous plants (order Liliaces). M. amygdalina is almond scented.

Massorah, a term applied to a body of work on the Hebrew O.T. It was the work of a body of trained scholars, named Massoretes, and consists of two parts. The Massoretic text, which is represented by all our which is represented by all our Hebrew MSS., has for its object the preservation of the traditional con-sonantal text and the fixing of its pronunciation by the most scrupu-lously careful system of vowel-points and accents. The compilation of notes, to which the name M is usually notes, to which the name M. is usually applied, deals with difficulties and peculiarities of the text and with variant readings. From the 6th to the 9th centuries the M. is anonymous, but in the 10th century it is connected with the names of Ben Asher of Tiberias and Ben Naphthali. See Jacob ben Hayyim's Bomberg Bible, 1524; Elias Levita's Massoreth ha-Massoreth (both translated and edited by Ginsburg), 1867; Buxtoff's Tiberias, 1620; and Ginsburg's edition of the Massorah (4 vols.), 1880-1906; the Masoretic edition of the Hebrew Bible (1894); and the introduction to this (1897).
Massowah, or Massaua, a fortified

Massowah, or Massaua, a fortifled seaport, cap. of the Italian colony of Eritrea, Abyssinia, on a small sterile coral island in the Red Sea, 1 m. in circumference and 200 yds, from the mainland. It is connected with the shore by an embankment containing shore by an embankment containing the water conduit. There is a good harbour between the island and the mainland, and an active trade is carried on with Arabia, Suez, India, etc. It is the chief port for Abyssinia and the Sudan, and exports pearls, ivory, ostrich feathers, jewels, coffee, tobacco, hides, etc. It is very hot and unhealthy. Pop. 8000 (about 600 Europearls).

Europeans).
Master: 1. The chief or president of a society, guild, corporation, or association, as the Master of Trinity College, the master of a masonic lodge (see FREEMASONRY), the Master of the

George Joseph Gustave ship under the direction of the cap-an educational writer, tain. 3. In commercial navigation. 3. In commercial navigation, the captain of the ship (skipper is used in the Merchant Shipping Act for the captain of a fishing vessel), or person entrusted with the care and navigation of the ship and cargo. He must be a properly qualified person, and upon him is the responsibility of having a proper crew and equipment. He enjoys very wide powers, e.g. he may hypothecate, sell, tranship, or jettison the cargo when circumstances warrant any such course or courses being taken (see Bottomay, HYPOTHECATION, RESPONDENTIA). He has the same rights as an ordinary seaman, e.g. a maritime lien, to re-cover his wages and disbursements made within his authority as M. See also MERCHANT SHIPPING.

Master and Servant. The relationship of master and servant has been ship of master and servant has been profoundly altered during the last century by the passing of the Factory Acts, the Employers' Liability Act, Workmen's Compensation Acts, Truck Acts, Minimum Wage Acts, and the Acts repealing the combination laws (see under all these specific titles). Formerly the relationship, though nominally contractual, was purely one-sided, the servant perforce accepting as the inevitable incidents of his service all the chances of sickness. of his service all the chances of sickness, accident, sweated labour, and low pay. At the present day, though there is still room for considerable amelioration, the position of a servant, so far as precautions for his safety and hygienic surroundings, and (in some cases) the rate of his wages are concerned, marks a great advance in social reform. There is, however, one social reform. There is, nowever, one outstanding and continuing disadvantage which seems to be almost inherent in most contracts of service other than those backed by the powerful sanction of a trade union boycott, and that is, that a servant has no guarantee that he will not be dismissed at a moment's notice, or, at all events, at such notice as gives him but little time or opportunity of seeking a fresh situation. Whether this matter will ever be remedied depends entirely upon how far future public opinion is prepared to endorse those socialistic ideas which would limit the controlling power of capital in the interests of labour in such a way as to introduce a real mutuality. The terms of a contract of service

may be either oral or in writing, may be either oral or in writing, unless the term of service exceeds one year, when the contract to be enforceable must be in writing (see Contract, Frauds, Statute of). In the absence of express or implied Stationers' Company, and the Grand Contract, Frauds, Statute Ofl. Master of Malta. 2. In the navy, an In the absence of express or implied officer who ranks immediately above terms or custom to the contrary, a lieutenant, and who navigates the most classes of servants are underneither party can terminate the contract before the year has expired. For the most part, however, the length of notice is ruled by trade custom, which may vary in different cases, e.g. domestic servants are as a rule entitled to one month's notice or to a month's wages in lieu of notice. Grooms and stablemen paid by the week are probably entitled to a week's notice, even though nothing is said on either side as to the term of the engagement. Clerks engaged by the week or month or paid by the week or month are entitled to a week's or month's notice respectively, but if employed at a yearly salary, a clerk is, according to a popular notion, entitled in the absence of custom to the contrary to three months' notice, at whatever intervals of time his salary may happen to be paid. Apparently commercial travellers, tutors, governesses, assistant schoolmasters, sub-editors, and reporters are entitled to three months' notice, but it is generally understood that news agency pressmen in the law courts are only entitled to one month's notice. Editors are entitled to six months' notice as a general to six months' notice as a general rule. Obviously it is to the ad-vantage of the scrvant to get the length of notice expressed in the contract if he can, rather than leave the matter to the uncertain de-cision of a jury. It is to be under-stood that no notice is required in the case of dismissal for disobedience to proper orders, dishoness incompetency, dishonest conduct. manent disablement, and, generally, conduct incompatible with his duties towards the master. The question of what conduct is incompatible with duty depends on the facts of each particular case; a seaman could get drunk in public off duty but not, for example, a schoolmaster.

example, a schoolmaster.

The wrongful termination by a master of the engugement renders him liable to an action of damages for wrongful dismissal; but in the great majority of cases the action is next to uscless, for the measure of damages is no more than the loss of pay during the period for which notice ought to have been given; and this will not ordinarily be a very high rate except, in the case of well-naid comexcept in the case of well-paid commission agents, managing directors, and the like. There is no obligation and the like. There is no obligation on a master to give reasons for dis-missal unless called upon to justify his action in a court of law. In the case of domestic servants it is to be noted that if the master chooses to pay a month's wages instead of giving notice the servant has no claim for

stood to be employed for a year, and tracts of service with infant employees, see Contracts, Infancy.) Under the Truck Acts, a master is forbidden to pay manual workers' wagesingoods or kind; but these Acts do not apply to agricultural labourers (whose low rate of wages is accounted for partly by the fact that they live practically rent domestic servants, and a few others. Fines may not be inflicted on a servant as a rule, except by express agreement, though it is obvious most servants have no voice in the matter. Legally women employees and young persons (under eighteen) can only be fined, if at all, up to the amount of damage sustained by the employer through the employer's delinquency.

The contract of service implies a number of duties on either side. The master is bound to indemnify the servant against all responsibility for acts done in the course of employment and ostensibly for the benefit of the master; while conversely, the master is liable for everything hisservant does is hable for everything disservant does in such circumstances (for qui facil per alium facil per se). A servant may not make a secret profit at his master's expense (see Commission, Secret). A master is not bound to pay the cost of medical attendance for his servant, though, as a rule, well-to-do masters have done so in the mest. Since the passing of the the past. Since the passing of the National Insurance Act many have thought themselves justified in abstaining from the moral duty. But in any case, a master must continue during merely temporary sickness. As to a master's statutory liability generally for injuries sustained by his servant in the course of employment (see under EMPLOYERS' LIABILITY and WORKMEN'S COMPENSATION).

There is no obligation on a master to give a servant a character: but if he do so he must give it in good faith. A good character given to a servant who is bad to the knowledge of the master may well render the master liable to an action for damages at the suit of a second master. Where a suit of a second master. master suspects his servant of theft, his best course is to dismiss him without reasons if he cannot prove the theft; but if he suspects the servant of having the stolen property in his possession he should get out a search warrant from the police, for he may not himself search his servants' boxes or other private receptacles. In the bankruptcy of a master, all wages or salaries of servants or clerks for services rendered during the four months prior to the date of the receiving order, up to £50, and all wages of labourers or workmen not exceedboard or maintenance. (As to con-ling £25 for services rendered during

Master of Arts. degree next above the bachelor (see word DEGREES IN ARTS). The magister originally had the significance of 'teacher,' and the term was used in medieval universities of the holder of the licentia docenti, or right to teach. It is now mainly used in England in the faculty of arts, gree in other

doctor. The is abbreviated

to M.A.

Master of the Ceremonies, see Ceremonies, Master of the. Master of the Rolls, see Rolls,

MASTER OF THE.

Masterton, a bor. tn. of Wairarapa North co., North Is., New Zealand,

60 m. N.E. of Wellington. Pop. 5000.

Mastic, the resin produced by a small tree (Pistacia lentiscus). It occurs in small grains or tears which are soluble in rectified spirit and oil of turpentine, and are used in the manufacture of varnishes.

Mastiff, a typically British dog bred to its present type for sporting purposes, but now kept only as a guard or pet. It is usually docile and good-tempered, and it is very powerful and fiercely courageous. The head is large and broad, the muzzle deep, square, and broad, the ears small, and the eyes wide apart. The fore legs are straight and strong, and the hind quarters broad and wide. Brindle was the original colour, but fawns are common. The ears and muzzle are black, and there is black round and between the eyes. The coat is short and close.

Mastodon, a fossil primitive elephant, belonging to the Pliocene and Miocene periods, and of a simpler type than the mammoth. The name (Gk. naorós, breast, and ô506s, tooth) was given by Cuvier on account of the nipple-shaped tuberculations on the teeth. Ms. have been found in many parts of the world. The carlier types, known as long-chinned Ms. (or (Tetrabelodon) have two pairs tusks, the lower jaw being prolonged

to support the under pair.

Masudi, Abul Hassan Ali (d. 957), an Arabian historian, born at Bagdad. Much of his life was spent in travel, and he visited Persia, Ceylon, Madagascar, China, Palestine, Syria, and Egypt, collecting materials in every place. His chief work was Annals (30 collecting the place of the place o vols.), but he is best known by his historical narrative entitled Meadows of Gold and Mines of Gems. A French translation by de Meynard was completed in 1877.

Masulipatam, a scaport in the masunpatam, a scaport in the Zapata. Sugar, cereals, t Kistna dist., Madras, British India, and tobacco are grown.

two months prior to that date, have 215 m. N.E. of Madras. The town priority in the distribution of assets. used to be famous for its chintzes, Master of Arts. The university but its trade has lessened consider-

out its trade has lessened considerably, and vessels have to anchor outside the port. Pop. about 39,500. Matabele, a branch of the Zulu Kaffirs, S. Africa. They originally lived in Natal, but in 1827 left it for the Transvaal under the leadership of a chief named Umsilikatze. they had ten years of conquest, sub-duing the Mashona, Makalaka, and other tribes, and in 1837, when driven out by the Boers, they had an enormous army recruited from all the conquered tribes. They then settled in the rich plains between the Zam-bezi and Limpopo Rs., and established a military despotism over the lesser nations. Their only occupations were war and hunting, and their frequent raids upon Mashonaland led to an outbreak of war with Great Britain from October to November 1893, re-sulting in the defeat of the Matabele and the capture of Bulawayo. They are now engaged in cattle breeding and agriculture.

Matabeleland, or Matabililand. country in the interior of British S. Africa, forming a province of Southern Rhodesia. Much of the surface consists of rich plains, traversed from S.W. to N.E. by the Matoppo and Izimunte Mts., and watered by tribu-tarles of the Zambezi, Lundi, and taries of the Zambezi, Lundi, and Limpopo Rs. There is much mineral wealth, especially gold. Cereals, cotton, and sugar are grown, and there are large tracts of forest, while cattle and sheep are bred in the districts free from the tsetse fly. Cap. Buluwayo. Area 70,800 sq. m. Pop. about 227,000.

Matadi, a riv. port of Belgian Congo, on l. b. of Congo below lowest falls, opposite Vivi. The cap. of a dist. and starting place of Congo Railway. Pop. 1500 (150 Europeans).

Matador, see BULL-FIGHT.

Matagalpa, a dept. in the centre of Nicaragua. Its chief productions are coffee and tobacco. The capital is Matagalpa.

in the state of on the S. bank

opposite Brownville, Texas. It exports hides, wool,

horses, and specie. Pop. 18,000.
Matamoros Izucar, a tn. in the state
of Puebla, Mexico, 36 m. S.W. of

Puebla. Pop. 8000.
Matanzas: 1. A prov. of Cuba, bounded by Havana, Santa Clara, and Florida Strait. Largely mountainous especially in the N.; watered by the Yumuri, San Juan, Palma, and Sagua Rs. In the S. is the great swamp, Gran Ciénaga Occidental de Zapata. Sugar, cercals, fruit, cotton, Area 3700

Pop. 255,308, above prov. on Matanzas Bay, and the San Juan and Yumuri Rs. Has large sugar factories, and exports sugar and other produce. Pop. 64,385.

Matapan, Cape, in Greece, is the southernmost point of Morea, 36° 22' N. lat.

Matapedia, a vil. of Bonaventure co., Quebec, Canada. Pop. 2000.
Mataram, the cap. of the island of Lombok, Dutch East Indies, situated near the W. coast.

Matariyeh, a vil. of Lower Egypt, 5 m. N.E. of Cairo. It is built on the site of the ancient town of On or

Heliopolis. Mataro, a city in the prov. of Barcelona, Spain, on the Mediterranean. Its chief manufs. are cotton and woollen goods, chemicals, glass,

and soap. Pop. 20,000. Matches began to supersede the old flint and steel, or tinder box, method of obtaining fire in the early part of the 19th century. Tinder, or dried cotton fibre, had been partly replaced by paper soaked in saltpetre, and largely by wood tipped with sulphur. In 1805 M. Chancel succeeded in renan 1805 M. Chance succeeded in rendering the erratic spark of flint and steel unnecessary. He coated the sulphur with a paste of chlorate of potash, sugar, and gum, which ignited on touching concentrated sulphuric acid conveniently carried soaked in asbestos fibre. This may be considered as the commencement of research for a changing means of obtaining flame. a chemical means of obtaining flame simply, rapidly, and conveniently. Phosphorus, which inflames at ordinary temperatures when dry and exposed to the air, was experimented with, but with little success at first. The 'Lucifer' was tipped with the chlorate of potash paste with antimony sulphide and ignited by friction on sand-paper. In 1827 'Congreves' came into use, the tips being of sulphur, phosphorus, and chlorate of potash, or of phosphorus and nitre, slight friction only being required. By about 1830 commercial manufacture was started, the industry centreing in Austria and Germany. The danger attending the use of matches igniting on slight friction and also the diseases, chiefly necrosis of the jaw, resulting from tumes in the use of phosphorus in factories, next claimed attention. In 1845 amorphous phosphorus (q.v.) was discovered by Von Schrötter of Vienna, and used in 1855 by Lundström of Sweden in 'safety' matches, patented in England by Bryant and May. The phosphorus was transferred from the M. tip to the frictional surface on the box, friction elsewhere not igniting the natural forest. England and Belthe M. Amorphous phosphorus is glum import timber and have large innocuous in processes of manufactures. Germany, Austria, France,

2. Cap. of ture, but white phosphorus being cheaper is still largely used. Factory inspection, leading to strict attention to cleanliness and ventilation, has improved conditions and practically removed chance of disease. It still remains, however, to find a completely safe but equally economical substitute. In Belgium, where M. manufacture has attained dimensions, the government offered a prize for such a substitute, which resulted in the use by many manufacturers of phosphorus sesquisul-phide. This substance is barely as satisfactory; its use may be recog-nised in M. which require much 'striking,' and the consequent wear-ing away of the frictional surface. The chief improvements have been in minor yet quite important directions: the prevention of brittleness and breaking off of the head; the falling off of the hot 'cinder' after ignition; the coating of the wood near the head with material (formerly sulphur, now paraffin wax or stearine), so as to insure ignition of the wood; coating the lower wood with material c.g. salt), to prevent burning or too rapid sait), to prevent burning or too rapid burning. The vesta is practically a small taper with ignition tip. Fuscs, for outdoor use in winds, at one time popular with smokers, have a further addition to the head consisting of charcoal and nitre, give a fiercely burning flame.

substances Ignition paste.—The used are known chemically as oxidising agents, substances which readily part with oxygen, and reducing agents, or substances which readily combine with oxygen; one for the M. tip, the other for the frictional surface. Ingredients and proportions, etc., are trade secrets or patents, but among oxidisers are: chlorate of potash, bi-chromate of potash, manganese peroxide, nitre, nitrate, and red oxide of lead; reducers: white and amorphous (red) phosphorus, sulphide of antimony, and certain sulphocyanides and thiosulphates. As a sample mixture, chlorate of potash, bichromate of potash, antimony sulphide and red lead for the M. tip; amorphous phosphorus and antimony sulphide for frictional surface. In addition glue or dextrine, sand, powdered glass, whit-

Manufacture has attained enormous proportions and extended to many countries. The industry tends to move naturally to regions where timber is readily available; thus increasing in Norway and Sweden where pine (white and yellow) forms largely

ing, and various colouring matters are

and U.S.A., also export largely. France the manufacture is a farmed government monopoly; in U.S.A. taxes and duties have led to trust monopoly. Splints: of pine and aspen. The wood is worked when green, and the operation completely carried out by special and ingenious machinery, turning out millions of splints per day. Logs of calculated size are placed on a turning lathe; a knife acting on the full length and advancing at each rotation cuts off a ribbon. The ribrotation cuts off a ribbon. The rib-bons are packed together and cut into long bands as broad as the length of a M. The bands are then fed into of a M. The bands are then fed into a machine which rapidly jerks them forward, each movement being the breadth of a M., while a synchronised knife cuts completely through. The M., after being dried, are sifted and arranged by machinery and fed into dipping frames. Another method is to feed them on to a running bell at a combal intervals the hell being off at regular intervals, the bell being after-wards coiled. In frame or coil the M. may be double length, each end being dipped. After complete drying, they are dipped in paraffin and afterwards in the ignition paste, being finally dried again in drying chambers. This may be called the Swedish method, and is used on the continent. In Britain, V. L. Long's machinery is used which deals with blocks which used which deals with blocks which are cut by two slicings, vertical and horizontal. By this method practically half as many splints per day can be turned out: up to 17,000,000. Round splints are split by circular cutters in rows; from these they are pushed by rods into slightly smaller toles in a nondless band; effer dimensions to the control of th holes in an endless band; after dipping in paraffin, they are carried over a synchronously moving roller covered with ignition paste, dried, punched out, and automatically packed. Boxes: Machinery shaves off from blocks skillets of correct size and scores them ready for bending. The remaining operations of box-making, labelling, and packing are carried out by female labour with that marvellous skill and rapidity which characterises such mechanical acts when performed daily over years. Matchlock, see FIREARMS and GUNS.

Mate, in navy, a term generally applied to any person who is an assistant or deputy in any work. In the navy the term is now applied only to petty officers who do not hold His Majesty's commission, e.g., boat-swain's M. In the mercantile marine, boathowever, the M. occupies the position of an officer in the navy. The first M. ranks as the chief officer, and is second only to the master of the vessel. Most merchant ships carry second or third

In leaves of the Brazilian holly (Her paraguariensis), an evergreen shrub, grown in 'yerbales' in Paraguay and Brazil. The best quality of M. (caa cuys) is made from the unexpanded buds; the second (caa-miri) from leaves from which the midrib has been removed, and the third (caa-gazu, or, yerva dos polos) from the whole leaf. The leaves are infused in water and sugar, and either milk or lemon added to the liquid, which is rather bitter in taste, but has restorative qualities

Matchuala, a tn. in the state of San Luis Potosi, Mexico, 100 m. N. of San Luis. Silver is mined in the vicinity. Pop. about 15,000.

Matelica Is., a tn. in the Marches, Italy, 22 m. W.S.W. of Macrata. Pop. (com.) 7000.

Pop. (com.) 1000.
Matera, a tn. in the prov. of Potenza, Italy, 34 m. W.N.W. of Taranto. It has a picturesque situation and is close to the troglodyte caves of Monte Scaglioso, still used as dwelling places. It manufs. as dwelling places. It manufs. leather. Pop. 17,000. Materialism is the philosophy of

the material, as opposed to the idealistic or spiritual, basis of life, which regards all phenomena, real and abstract, as explicable by physical science. It regards matter as the one ultimate fact, 'uncreatable as it is indestructible' (Vogt), and mind as a product of matter. The obvious objections are (1) that, as Caird points out, the recognition of the existence of matter presupposes the existence of mind as the medium of such recognition; and (2) that, taking e.g. imagination as one particular aspect of consciousness, the mind can originate an idea when whist matter cannot originate an idea when abstracted wholly from mind. Recent research is siology, however, certainly confirms the materialistic hypothesis of the relation between neurosis and psythus giving an enhanced value to sensuous perception as the fundamental source of cognition. But it offers no justification for the belief of the 18th century French school of sceptic encyclopedists, that mental experience, faculty, idea, and function are merely transformed sense-experience. M. is to be found in all philosophical systems, from ancient Buddhism and Greek Epicureanism and scepticism down to Gassendi, Hobbes, Locke, Hume, Comte, and Mill, and later Huxley, Spencer, and Haeckel. M. flourished in Europe during the 18th century under De la Mettrie and Holbach reaction against กร a Ms., and in some cases even a fourth. mystic-idealism, and during the 19th Mate, or Paraguay Tea, the dried century under Moleschott and Büchof Kant and Hegel. See Sully's 'Evolution' (Ency. Brit.), Lange's History of Materialism, and G. H. Lewes's Problems of Life and Mind.

Materia Medica, a branch of medical science dealing in as complete a manner as possible with the history, preparation, properties, and uses of the materials used in medical pre-In most countries there scriptions. are official publications, e.g. British Pharmacopæia, by the General Medi-cal Council. This has been rendered necessary to combat mediaval superstitious remedies as well as those of modern quacks, and indirectly is supported by law. An official list of drugs contains only those which have passed the test of experience, and of which the knowledge is suffi-cient to render them safe in use. Many good drugs are introduced and in regular use before official sanction; proprietary medicines may or may not appear, but generally consist of official drugs in a patent compounded form. The subject of M. M. is very wide. Its most important branch deals with the preparation of drugs in the pure state, and the recognition of adulterations; this comes under the head of *Pharmacy*. Pharmacology, another branch, deals with the physiological action of drugs on the living body, in large and small doses, in health and disease, and of the chemical form, solution, etc., in which best administered for assimilation by the body. Toxicology conflies itself to drugs of toxic or poisonous action, and ascertains particularly the range of safe doses.' All these merge into Theraofficial drugs in a patent compounded doses.' All these merge into Thera-peutics, which is the everyday business and concerns of the medical practitioner. Classification of drugs s very varied and overlapping; chiefly there is the ordinary chemical arrangement, and their therapeutic action; e.g. alkaloids, salts, infusions; and tonics, sedatives, stimulants, etc. very varied and overlapping;

Mate-Szalka, a tn. in the com. of

Szatmar, Hungary, 44 m. N.E. of Debreczin. Pop. 5500.

Debreczin. Pop. 5500. Matfre, Ermengau (c. 1250-1322), a Provenceal writer, born at Béziers; spent the latter part of his life in the monastery of Béziers. His great work, the Breviari d'Amor, was begun in 1288. It has been published in 2 vols. by Azais (1862, 1881).

Mathematics. It is impossible to glass a comprehensive definition of

give a comprehensive definition of the subject matter of M. Its field of investigation is so large that it may be safely stated that no mathematician is an expert in all its higher

ner as a reaction against the idealism relating to space or number may be of Kant and Hegel. See Sully's called M. A brief account of some of the more elementary branches will give some idea of its scope. Following the historical order, the first branches were those of arithmetic and geometry. These were invented by the Egyptians, and then greatly extended by the Greeks. The subject of arithmetic gave rise to algebra, which in its elementary stages is generalised arithmetic. Thus $7^2-3^2=(7+3)(7-3)=40$, as a statement simply shows a relation between the particular numbers 7 and 3, but when put algebraically, $a^2 - b^2 = (a + b)(a - b)$, shows that the relation is true generally for whatever numbers the symbols a and b may stand. This illustrates the trend of M. as a whole. It always seeks generality, and abhors any limitations to the generality of its statements and proofs. Algebra has now outgrown generalised arithmetic, and may be taken as a fundamental branch of M. In its primitive state, algebra confined itself to the consideration of what are termed real numbers, but further investi-gation showed the necessity of introducing irrational numbers. instance, the diagonal of a square whose side is 1 in. is found to be a number which does not occur in the ordinary numerical notation, and is now denoted by $\sqrt{2}$. Negative numbers, e.g. -2, were also introduced. Still the field of algebra was further extended by the intro-duction of imaginary numbers, e.g. $\sqrt{-3}$, leading to that important branch—the theory of the complex branch—the theory of the complex variable. Geometry made rapid progress with the Greeks, who studied the geometry of all the common figures, and introduced the study of Conic Sections, which was to play a most important part in the development of astronomical M. under Kepler and Newton. The next important stage in the development of geometry was the introduction of Cartesian co-ordinates by Descartes. This brought the study of algebra and geometry into greater connection, affording a means of studying the properties of curves by the use of algebraic expressions, and the behaviour of algebraic expressions, the behaviour of algebraic expressions themselves. The ideas of variable function and continuity were exfunction and continuity were explained very clearly by this geometry. The important branch termed

Trigonometry was invented by Hipparchus (c. 160 B.c.) and extended by Ptolemy. The greatest advance branches, but only in a very few of was made by the introduction of the them. Broadly speaking, anything differential calculus discovered simul-

The notation of Liebnitz is the one in common use. Its subject - matter consists of the consideration of the rates of increase of functions. The study of series is also an important branch. Some fifty years ago the series

 $\dots + (\frac{1}{2})^3 + (\frac{1}{2})^2 + \frac{1}{2} + 1 + 2 + (2)^2 \dots$ to infinity was stated in one of the books of the time to be equal to zero. Thus the necessity for the consideration of the behaviour of series arose, forming quite an impor-tant branch in itself. Of late years a great deal of thought has been given to the philosophical foundations of the subject. The calculus introduced the problem of infinitely small quantities, and the question of the nature of infinity has been probed by Control and his control and the cont by Cantor and his successors. The whole of Euclidean geometry has been shown to rest upon an assumption, and quite consistent geometries, termed non-Euclidean, have been termed non-Euclidean, have invented by Lobatchewsky termied home-numeration in the control of the contr down, the solution being true only under these conditions, and thus M., like the rest of the sciences, though in a greater degree, can only claim consistency. Sce various articles on mathematical subjects. On the philosophical side, see Russell, Prin-ciples of Mathematics; Poincaré, ciples of Mathematics; Science and Hypothesis; Whithead, Universal Algebra.

Mather, (1663-1728). Cotton divine and writer, born at Boston; son of Increase Mather. He was ordained of Increase Mather. He was ordained in 1684, and was a minister in Boston from that time till his death. He was a considerable linguist and a prolific writer. His works include Magnalia Christi Americana (1702); Essays to do Good (1710); Psalterium Americana (1718).

terium Americana (1718).

Mather, Increase (1639-1723), a
Nonconformist divine, born at Dorchester, Mass.; educated at Harvard. In 1657 he came to England,
and graduated the next year at
Trinity College, Dublin. He returned
to America, and was ordained at
Boston in 1664. In 1680 he presided at the Boston Syno?, and in
1683 was instrumental in procuring 1683 was instrumental in procuring the refusal to give up the Boston Charter. From 1684-1701 he was President of Harvard College, and during that time came on several missions to England. He wrote some religious treatises.

Mathew, Sir James Charles (1830-1908), a judge, born at Cork; graduated from Trinity College, Dublin, 1850; entered Lincoln's Inn

taneously by Newton and Liebnitz, lin 1851. In 1881 he was appointed a judge in the Queen's Bench Division and knighted, and became president of the Commercial court of that divior the Commercial court of that division in 1895. In 1892 he was appointed on a Royal Commission to inquire into the state of the evicted tenants in Ireland, and in 1901 was raised to the Court of Appeal.

Mathew, Theobald (1790-1856), a priest and temperance reformer, born near Cashel, Ireland; joined the Capuchin Franciscans in Dublin and

Capuchin Franciscans in Dublin, and took charge of a small chapel in Cork. In 1838 he signed the total abstinence pledge, and advocated the policy all over Ireland with the policy all over Ireland with remarkable results. In 1843 he remarkable results. In 1843 he came to London, and travelled in America during 1849-51. He worked energetically during the Irish famine.

Mathews, Charles (1776-1835), an actor, made his borning to the control of the

actor; made his bow in London in 1803, after a long apprenticeship to 1803, after a long apprenticesing to his profession in the provinces, where he had acquired a reputation as a comedian. This reputation he increased when he was established in London, where in 1828, having played long at Drury Lane and Covent Garden, he set up in management at the Adelphi Theatre. With his wife he used to tour the country and give entertainments, which he called 'At Homes,' and which were very successful. His Memoirs were published cessful. His Memoirs were published four years after his death. Mathur.

Matico a shrub (c.

of which yield a heavy pale green aromatic oil, and are used as a styptic.

aromatic oil, and are used as a styptic.
Matida, or Maud (1102-67), the
oily daughter of Henry I. of England. Married to Henry V. of Germany, 1114, and at his death in
1125 returned to England. She
married Geoffrey of Anjou in 1128,
and by him was the mother of
Henry II. At the death of Henry I.
(1135) the barons recognised her as his successor, and carried on an un-successful civil war with Stephen till 1142.

Matida, Countess of Tuscany (1046-1115), the daughter of Count Boni-face III., and came into vast estates at an early age. She was twice married: to Godfrey V. of Lor-raine, and to Welf V. of Bavaria. Her life was spent in support of the popes against the Emperor of Germany in the struggle over investiture. In 1071 she aided the pope against the Normans, and in 1077 Henry IV, underwent his humiliating penance before Gregory VII. at her Castle of Canossa. Her estates were given to the Holy See in 1077, and the grant renewed in 1102.

Matilda, Caroline, see CAROLINE

Norway.

Matin, Le, a Paris daily paper, founded in 1884 by Alfred Edwards as a Moderate Republican journal, devoting itself rather to the publi-cation of news from all over the world than to the propagation of political views. It published trans-lations of most of the telegrams in the London Times. According to its own advertisements of twenty years ago, it was the only French paper that received by wire and special correspondence the latest news from all parts of the world. It has always opened its columns to all shades of opinion, whether republican, radical, or bonapartist, a fact which was amply proved during the Floguel affair and the subsequent election of M. Meline (q.v.). Among its contribu-tors were Emmanuel Arène, Granier de Cassagnae, Cornély, Vallès, Ranc, Jules Simon, Des Houx, and Scholl. Edwards sold the paper in 1895, when its price became 5 centimes.

Matins, see BREVIARY. Matiya, a tn. of prov. Assiut, Upper Egypt, on left bank of Nile, 129 m. S. of Cairo. Pop. 7000.

Matlock, a tn. of Derbyshire, England, on R. Derwent, 15 m. N.W. of Derby. It is picturesquely situated on the slope, and at the bottom of the narrow and beautiful Derwent valley, and is surrounded by mountain scenery. It has famous hot springs, and in the neighbourhood are stalactite caves, petrifying wells, and lead mines. Pop. (1911) 6746. Adjoining Matlock to the S. is Matlock Bath, with numerous hydropathic establishments. Pop. (1911) 1802.

Matoppo Hills traverse Matabeleland, British S. Africa. In this range, about 30 m. from Bulawayo, is the tomb of Cecil Rhodes.

Matricaria, a genus of composite plants with leaves much divided into narrow segments, and white ligulate ray florets in a single row. M.chamomilla is the wild chamomile.

Matsukata, Marquis Masayoshi (b. 1835), a Japanese statesman, born in Satsuma. After the revolution which ended in the overthrow of the Shogunati, he was appointed a local governor. In 1870 he received an appointment in the central government and helped to carry out the Land Tax Reform. He was appointed Minister of Finance, 1881; Premier, 1891-92; again Minister of Finance in 1895; Premier and Minister of Finance, 1895; and again Minister of Finance, 1896; and minister of Finance, 1896; and again Minister of Finance, 1896; and minister

MATILDA, Queen of Denmark and His works include reports on various financial and economic subjects and

on currency.

Matsumai, see Fukuyama. Matsumoto, a tn. of Honshiu, Japan, 115 m. W.N.W. of Tokyo. Pop. 35,000. Matsushima, or Shiogamo-no-Mat-

sushimo, a pine-clad archipelago in Sendai Bay, E. coast of Shikoku, Japan, famous for its beauty. One of the 'San-Kei' of Japan.

Matsuya, a tn. of Shimane pre-fecture, Hondo, Japan, near W. coast, with famous paper manufs. Pop. 35,081.

Matsuyama, a tn. of Shikoku, Japan, 155 m. S.W. of Kobe. Its port, Mitsu, 4 m. distant, is on the Inland Sea. Pop. 44,000.

Matsuzaka, a tn. of Honshiu, Japan,

on the S.E. coast, 58 m. S.E. of Kioto. Pop. 12,000. Matsys, or Massys, Quentin (1466-1530), a Flemish painter, born at Louvain: supposed to have been a blacksmith. In 1491 he became a member of the Guild of St. Luke in Antwerp. His work is mainly religious, but includes some fine porand is marked by finished smoothness, attention to detail, and expression, feeling, and reverent together with a lack of atmosphere and a certain exaggeration of gestures indicative of character or emotion.

Matteawan, a vil. of Dutchess co., New York, U.S.A., 1 m. E. of the Hudson R. Pop. (1910) 6727. Mattei, Tito (b. 1841), an Italian composer, born near Naples; be-came professor in the Santa Cecilia Academy, Rome, in 1858, and after leaving the Continent settled in London in 1865 and became con-ductor at Her Majesty's Theatre. His work includes popular operas, hallots and rivardants mucic

ballets, and planoforte music. Matter, in philosophy, a term with two main uses. A ristoto distin-guished between M. (324) and form (2.665). He considered M. as being void of form, as the δλη πράτη. The concrete unity, τὸ σύνολον, consists of form and M. When we remember that for Aristotle the form of a body is closely connected with the soul, the principle of life, we see that the Aristotelian use is not violently opposed to the ordinary use in which M. is considered as opposed to mind. The problem of the distinction beundetermined object of an empirical intuition is called phenomenon. That which in the phenomenon corresponds to the sensation, I term its "matter"; but that which effects that the content of the phenomenon can be arranged under certain relations, I call its

"form." Matter, in physics, is the name given to that out of which all objects external to the mind are thought to be composed. The nature of M. belongs to the realm of speculation, and thus nothing definite is known.
Its properties, which are sense perceptions, consist chiefly of the following: It is indestructible, this property forming the basis of all chemical theory and processes; it possesses inertia, that property of a body by which it maintains its state of rest wmen it maintains its state of rest or of uniform motion unless com-pelled by an external agency to change that state, and it is the vehicle of energy. Various theories as to the constitution of M. have been formulated. The first is that due originally to Lucretius, known as the Atomic Hypothesis, which states that matter consists ultimately of that matter consists ultimately of very minute particles, which are in-capable of further subdivision. The assumption of the existence of the cther has led to several interesting hypotheses. There is Kelvin's Vortex Theory which regards the atom as a yortex ring in the other. Reynolds has formulated the Granular Hypothesis. The more recent advances in the The more recent advances in the study of electric waves, and radio-activity seem to show that M. Is really a manifestation of electricity. Larmor conceived the atom as a number of electrical units, called electrons, in rapid orbital motion. The negatively electrified corpuscies of Sir J. J. Thomson were identified with the above electrons and there are the contract of the contrac with the above electrons, and thus on this electron theory M. is a manifesta-tion of electricity. Thomson has confirmed experimentally that mass is an ethereal phenomenon. But clearly were the establishment of a printing press (1652), the codification of the general properties of M., such as Bible into Walachian. elasticity, capillarity, viscosity, inminimum and the translation of the general properties of M., such as Bible into Walachian.

Matthew of Westminster, a legendertia, etc., are classified in natural ary 15th century Benedictine monk philosophy as the properties of and chronicler, to whom the Flores of convenience than as forming a minimum was a significant distinct branch in the standpoint of the this only moves the difficulty a little

to the interpretation of knowledge, name is due to the formation of the In his Pure Reason he says, 'The rocky, horn-shaped peak, The ascent. name is due to the formation of the rocky, horn-shaped peak. The ascent, which is very difficult, was first made in 1865 by Whymper, Lord Douglas, Hudson, and others, when several of the party lost their lives.

Matthew, the Gospel according to St., the first book of the N.T. The tradition which attributes the author-

ship to St. Matthew is founded on the words of Papias that 'Matthew composed the oracles (λογία) of the Lord in the Hebrew tongue and each interpreted them as he was able. This cannot refer to our Gospel, for it is certain that this work is an original Greek composition, and not a translation from the Hebrew or the Aramaic. Some have, therefore, been led to doubt the veracity of Papias, but this is rendered unnecessary by the very probable theory as to the voracles of the Lord' recently given (see Logia). Our Gospel is composed from the two main sources: (1) St. Mark's Gospel or the earlier form of it known as the *Ur-Markus*; (2) a source common to St. Matthew and St. Luke known as Q. It is extremely difficult to secure a probable date for the first Gospel. Harnack dates it from 70-75 A.D., except certain later additions. It is generally placed somewhere in the last quarter of the first century. It is almost certain that St. Matthew was not its author. The Gospel is characterised first by the number of its quotations from the O.T., emphasing the Messianic character of Christ's work, secondly, by its arrangement of the subjectmatter in groups. Thus we have a callect of discounter of the second of the subjectmatter in groups. collection of discourses in chs. v.-vii., of miracles in chs. viii. and ix., of parables in ch. xiii. Much more attention is given to our Lord's discourses than in the Marcan narrative. See Commentaries by Th. Zahn (1903), W. C. Allen (1907), and article in Hastings' Dictionary of Bible, where full bibliography is given,

Matthew, Basarab, (d. 1654), a haspodar of Walachia. He came to the throne in 1633, and ruled with much wisdom. Among his reforms

general properties of M., such as Bible into Walachian.

clasticity, capillarity, viscosity, increase, a legendertia, etc., are classified in natural ary 15th century Benedictine monk philosophy as 'the properties of and chronicler, to whom the Flores matter' more from the standpoint of convenience than as forming a distinct branch in itself.

Matthewof Westminster, a legendary 15th century Benedictine monk philosophy as 'the properties of and chronicler, to whom the Flores Historiarum was formerly assigned. This MS. was probably compiled by various writers at St. Albans and Westminster. It was first printed by Archbishop Parker in 1567, transcent the borders of Valais, Switzerland, and Piedmont, Italy, 6 m. S.W. of Zermatt. Altitude, 14.775 ft. Its Altitude, 14.775 ft. Its

New Orleans; educated at Columbia College, New York. He first entered the legal profession but soon left it for literary work. He is a member of the American Academy of Arts and Letters; was a founder of the American Copyright League, the Dunlap Society, and the Simplified Spelling was decorated with the French Legion of Honour in 1907, and became president of the Modern Language Association of America in 1910. His published works, comprising fiction, criticism, and drama, etc., include: French Dramatists of etc., include: French Dramauss of the 19th Century; Vignettes of Man-hattan; His Father's Son; Introduction to the Study of American Literature; Americanisms and Briticisms; Aspects of Fiction; Pen and Ink; Studies of the Stage ; Tales of Fantasy and Fact, etc.

Matthias Corvinus (1443-90), King of Hungary, born at Klausenburg, the son of John Hunyady; elected king in 1458. He was not crowned till 1464, after a long struggle against the Turks, the Bohemians. Emperor Frederick III., and hostile factions at home. His reign was marked by a series of wars. In 1468 he con-quered Bosnia, and in 1467 Moldavia and Wallachia, and in 1478 con-cluded a peace with Ladislaus of Bohemia by which he gained Moravia, Silesia, and Lusatia. In 1485, during a war with Frederick III., he cap-tured Vienna and made_himself master of much of Austria. He was a great military tactician and a prudent but arbitrary ruler, promoting in-dustry and commerce and regulating justice and finance. He was a liberal patron of learning and founded the University of Budapest and a fine library

Matthiola, a genus of cruciferous herbs or shrubs which has given rise to various valuable garden plants, including the ten-week, night-scented, Brompton, queen, and wallflower-leaved stock. M. incana and M.

sinuata are British natives.

Matthisson, Fredrich von (1761-1831), a German poet, born Hohendodeleben, near Magdeburg. In 1778 he went to Halle University In 1778 he went to Halle University to study theology, which he soon gave up and took up philology and literature. From 1781-84 he was professor of economics at Dessau. In 1787 he published his poems which were praised by Schiller and Wieland. A collected edition of his writings was sublished in Zürich (1825-29) S. role. published in Zürich (1825-29), 8 vols.

Mattock, or Grub-axe, a form of pick-axe with one end of the metal head pointed or shaped to an axe-like blade, and the other with a blade like that of an adze. It is used chiefly for grubbing up roots.

Brazil. The rivers Madeira, Parana-Paraguay, Araguay, Guapore, and Tapajos form its boundaries, and it . is also watered by the Xingu R. The greater part is a plain, much of which is densely wooded, while there are also large swampy areas. Several ranges of low mountains traverse the centre, and are rich in minerals. The province is little known and scantily inhabited. Rubber is the chief export. Capital Cuyabá. Area 532.680 sq. m. Pop. (estimated) 157,000. It contains a town of the same name, formerly an important mining centre. Pop. 1000.

Mattoon, a city of Coles co., Illinois, U.S.A., 50 m. W. of Terre Haute. It has large foundries, machine shops railway works and factories. Pop.

(1910) 11,456.

Maturin, a tn. in the state of Bermudez, Venezuela, 40 m. inland from the Gulf of Paria. Pop. 10,000.

Maturin, Charles Robert (1782-1824) an author, wrote several plays, one of which, a tragedy, Bertram, was pro-duced by Kean at Drury Lane in 1816. He is best remembered as the author of the novels, Montario, 1807; The Milesian Chief, 1812, both of which won praise from Scott, and especially Melmose the Wanderer, 1820, which was his masterplece.

Maty, Matthew (1718-76), a physician and writer, born near Utrecht; educated at Leyden; became a physician in London (1741). In 1750 he founded the Journal Britannique. In 1751 he was made a F.R.S.; in 1753

unc in

prir Society, and in 1772 principal libra-rian of the British Museum. He wrote

several memoirs.

Mau: 1. A tn. in the Azamgarh dist. of the United Provinces, India, 55 m. N.E. of Benarcs. The chief industry is weaving. Pop. 16,000. 2, A to. in the Jhansi dist., United Provinces, India, 117 m. S.W. of Cawapur, and engaged in the manuf. of kharua cloth. Pop. 21,500. Maubeuge, a tn. in the dept. of

Maubeuge, a un. in subsection of France, on the Sambre. It is strongly fortified, has an arsenal, and bardware. Pop. manufs. glass and hardware. (com.) 21,000.

Mauch Chunk, the cap. of Carbon co., Pennsylvania, U.S.A., on the Lehigh R. At this spot the river flows through a deep ravine, and the town, which is situated on the mountain slopes, attracts a number of visitors on account of its beauty. is in the centre of a rich coal region. Pop (1910) 3952.

so that of an adze. It is used chiefly Mauchline, a tn. of Ayrshire, Scotrgrubbing up roots.

Matto Grosso, an interior state of marnock. It has noted manufs. of

horse and cattle market. Burns lived sisted mainly of compilations. at Mossgiel, 11 m. to the N.W. Pop.

(1911) 2441.

Maude, Cyril (b. 1862), an English actor, born in London; educated at Charterhouse. He first appeared on Charterhouse. He first appeared on the stage in Colorado in 1883, and in 1884 returned to England, appearing at the Criterion Theatre, London, in 1886. From 1896-1905 he was comanager with Frederick Harrison at the Haymarket, London, and in 1907 took over the managership of the Playhouse, Charing Cross.

Maudisey, Henry (b. 1835), a physician, born in Yorkshire; graduated as M.D. from University College, London, in 1857. He was medical superintendent of Manchester Royal Lunatic Hospital (1859-62); physician at the West London Hospital (1864-74); professor of medical jurisprudence at University College, London (1869-79), and became Goulstoniau lecturer at the Royal College of Physicians (1870). He has specialised in mental work and was editor of the Journal of Mental Science (1862-78).

and Genius, 1908.

Maui, one of the Hawaiian group of islands, situated about 26 m. N.W. of It consists of two peninsulas divided by an isthmus of sand, the eastern one containing the volcano of Haleakala over 10,000 ft. high, and with a crater 20 m. in circumference. The chief towns are Lahaina and Kahului. Pop. 25,000.

Kahului. Pop. 25,000.
Maule: 1. A prov. of Chile, bounded on the W. by the Pacific Ocean. Area 2475 sq. m. Cap. Cauquenes. Pop. 111,000. 2. A riv. of Chile which flows into the Pacific Ocean near

Constitucion. It is about 140 m. long. Mauléon, a tr. and the cap. of an arron. in Basses-Pyrénées, France, 25 m. S.W. of Pau. Pop. 3000.

Maulmain, or Moulmein, a scaport and the cap. of the Amherst dist., Lower Burma, 30 m. N. of Amherst. It has a considerable trade, export-ing rice and cotton among other products. It is also engaged in ship-g. Pop. 60,000. building.

Mauna Kea, a volcano, now extinct, in Hawaii, situated in the centre of the. 'and, and is the highest point in

Pol being 13.805 ft. In a, a volcano in Hawaii Is. It is ab 13,660 ft. high, and is still active. The crater of Kilauca is on its

E. slope. Maunder, Samuel (1785-1849), an of the Royal Society, London.

fancy wooden articles, and a famous; English man of letters. His work conacted as assistant and partner to his brother-in-law, William Pinnock, in the compilation of his catechisms, and himself issued the Literary Gazette; Biographical Treasury; Scientific and Literary Treasury; Treasury of

Knowledge, etc.
Maundy-Thursday, the Thursday of Holy Week. The name is derived from mandalum, the first word of the service chanted at the washing the feet of pilgrims on that day, which is taken from John xiii. 34. It was is taken from John xiii. 34. It was accompanied by a distribution of doles, which were handed to the pilgrims in small baskets, thence called 'maunds.' They are usually given by the lord high almoner, but James II. performed the ceremony in person. In 1838 the dole was substituted for a money payment from

Maupassant, Guy de (1850-93), a French novelist and poet, born at the Château of Miromesuil, Seine-Inférieure; educated at Yvetot and Rouen. He entered the Ministry of Marie and South 1860 for the Château of Miromesuil, Seine-Inférieure; educated at Yvetot and Rouen. He entered the Ministry of Marie and forest in the Rouer. Marine, and fought in the Franco-German War. He early came under the influence of Flaubert, who assisted him with encouragement and advice. After about 1886 he gradually broke down in health and reason, and after attempting suicide in 1892 died under painful circumstances in Paris. As a novelist he was the last of the naturalists, and though marked by considerable limitations in thought and imagination, he was a master in the vivid and accurate reproduction of life which he himself had observed with a wonderful intensity. His style is simple, but most effective. His novels include Boule de suif, 1880; La novels include Boule de suif, 1880; La Maison Tellier, 1881; Mademoiselle Fift, 1883; Une Vie, 1883; Clare de Lane, 1883; Miss Harriet, 1884; Yeetle, 1884; Hel-ami, 1885; Toine, 1886; La Petile roque, 1886; Montoriol, 1887; Le Horla, 1887; Pierre et Jean, 1888; Fort comme la mort, 1889; and Notre cœur, 1890. He also wrots Contes de la bécasse, 1883; Contes et nouvelles; Monsieur Parent, and Conles du jourde la nvil. 1885: and Contes du jourde la nuil, 1885; Le Rosier de Madame Husson, 1888; and Inulile heauté, 1890, all collections of short stories; Des Vers, 1880, a volume of poems, and several books of travel.

Maupertuis, Pierre Louis Moreau de (1698-1759), a French mathematician, born at St. Malo, educated in Paris, and served for some time in the army. In 1723 he was elected to the Academy of Sciences, and in 1728 his ardent support of the theories of Newton led to his becoming a fellow 1736 he was the head of a party of lovable man, whose only object in Academicians, including Clairaut and life was to do good as he saw it. There Lemonnier, who were sent to Lapland to measure a degree of longitude. and succeeded in exposing the error made in the previous measurement of Dominic and Cassini. In 1740 he went to Berlin and was made president of the Academy of Sciences. He wrote several treatises on geometry, arithmetic, and astronomical measure-

Maur, St., Congregation of, a society of reformed French Benedictines. It was established about 1618 at St. Maur-sur-Loire, and as the move-ment spread the chief house was removed to St. Germain des Prés, The order, which was famous Paris. for its literary work, was suppressed

at the Revolution.

Maurandya, a genus of climbing perennials of the order Scrophula-M. barclayana bears violetpurple flowers, and is often grown on walls and trellises.

Maurepas, Jean Frédéric Phélippeaux, Comte de (1701-81), a French statesman, born at Versailles. Succeeded his father as Secretary of State of the King's Household in 1715, and in 1723 became Minister of Marine. In 1749 he offended Madame de Pompadour by an epigram, and was banished from Court. In 1774 he was recalled and made first minister; was a liberal patron of art and science.

Maurice of Saxony, see Charles V.
(1500-58), Emperor of the Holy

Roman empire and King of Spain.

Maurice, Frederick Denison (1805-72), an English divine, went to Cambridge University, and there assisted in founding the famous 'Apostles' Club.' In 1830 he took holy orders, and six years later became chaplain to Guy's Hospital, which position he held for ten years. In 1840 he became professor of English literature at King's College, London, and in 1845 became Boyle lecturer and Warburton lecturer; but in 1853, at the request of the council, resigned both chairs after the publication of his Theological Essays. He was much inin national education and the condition of the poorer classes, and allied himself with the Christian whom Charles Socialists. among Kingsley was a power. In 1854 he took an active part in the foundation In 1854 he of the Working Men's College, which he was appointed the first principal. In 1860 he became rector of St. Peter's, Vere Street, and held this position until within three years of his death, when he became incumbent of St. Edward's, Cambridge. He had since 1866 been professor of moral philosophy at Cambridge. He was a large-hearted, earnest, sincere, and

is a biography by his son (1884).

Maurice, Prince of Orange and Count of Nassau (1567-1625), son of William the Silent. On his father's assassina-tion (1584) he became stadtholder of Holland and Zealand provinces, and of the seven United Provinces (1587). He showed himself a capable general, capturing Breda, Zutphen, and Nime-guen (1590-91), and expelling the Spaniards, who were compelled to acknowledge the United Provinces as a free republic, and conclude a twelve years' truce (1609). The struggle was renewed (1621), and while negotiating an alliance with England and France M. died. See Van Prinsterer, Maurice et Barnevelot, 1875. See also NASSAU, House of, and Orange.

Maurice, Thomas (1755-1824), an English historian, graduated as B.A. from University College, Oxford, and having taken holy orders took charge of a chapel at Epping in 1785. His interest was aroused in Indian affairs, with the result that he published Indian Antiquities between 1791-97, and a History of Hindostan (1795-99). For twenty-five years (1799-1824) he was assistant librarian in the British

Museum.

Mauricianus Junius, a Roman jurist, flourished, it seems, in the days of Antoninus Pius. He wrote Ad Leges, and his authority is four times cited in the Digest.

Maurier, George L. P. B. du. see Du

MAURIER, G. L. P. B. Maurier, Gerald du (b. 1873), an English actor manager, born at Hamp-stead, son of George Du Maurier (q.v.) "ie stage was (1894) as at In 1895 he toured with Forbes Robertson, playing in The Profligate and Diplomacy, and the same year was engaged by Beerbohm Tree, and appeared as Dodor in Trilby at the Haymarket. In 1896 he accompanied Tree to America, playing in Hamlet, The Scats of the Mightly, etc., and on his return appeared at Her Majesty's, the Royalty, the Prince of Wales's, the Duke of York's, and Wyndham's (1903), where he played the Hon. Ernest Woolley in The Admirable Crichton. He was the original Captain Hook and Mr. Darling in Peter Pan (1905), and made a great 'hit' at the Comedy in 1906 as A. J. Raffles in Raffles. He also scored a big success as Montgomery Brewster in Brewster's Millions (1907). Among his u mentioned John Nobody's Daughter (1911), Thomas Pelling in The Perplexed Husband.
Maurists Daughler

Mauritania, or Mauretania, the classical name for the most norththe westerly portion of Africa, extending southward to the Atlas Mts. and emsouthward to the Atlas aus, and embracing sections of the modern Morceco and Algeria. It was so called after the Mauri, or Moors, who inhabited it. The Emperor Claudius divided M. into two provinces, M. Tingitana (from Tingis, the modern Tangiers) and M. Cæsarea.

Mauritaine a French protectorate.

Mauritania, a French protectorate, incorporated in 1909, and comprising the districts of Trarza, Gorgol, Guidi-maka, Tagant, Brakna, etc., to the N. of the Lower Senegal. The area is \$44,967 sq. m., and the pop. over

230,000.

Mauritia, a genus of tall S. Amerl-can palms with fan-shaped leaves.

Mauritius (formerly Ile de France), maurinus (formerly 11e de France), an island of the Indian Ocean be-longing to Great Britain, lies in lat. 19° 58' to 20° 33' S., and long. E. from Greenwich 57° 17' to 57° 46'. The

these the most celebrated is the Peter nomer, and hydrographer. Botte, situated in the rear of the town of Port Louis, and forming a remarkable cone, sustaining on its apex a gigantic piece of rock which has the appearance of being poised upon its summit with the nicest precision. The principal towns are Port Louis, the capital, and Grande Port or Mahébourg, the southern port, the latter difficult of access for shipping and much encumbered with coral reefs. Port Louis has a spacious harbour. M. produces sugar, salted fish, hides. rum. cocannut oil fibres nour. M. produces sugar, salted fish, hides, rum, cocoa-nut oil, fibres, vanilla, and molasses. Area 720 sq. m. Pop. 370,393, including over 250,000 Indians. M. was discovered in the year 1505 by the Portuguese commander, Don Pedro Mascarenhas. The Dutch formed a settlement here in 1644, but salt sequently abandared in 1644, but subsequently abandoned it. A new and more successful attempt to form a permanent estab-lishment was made by the French in 1721. M. remained in French hands until near the close of the year 1810, when it was taken by the British, and has since remained a British possession.

of the Benedictine order, who settled (1494-1575), an Italian mathemat, the beautiful abbey of St. Maursuf-Loire, near Saumur, and whose chief house was St. Germain des Prés, near Paris. They counted Mabillon, Bouquet, and other learned scholars among their number. may be said to have paved the way for algebra; in trigonometry he in-troduced secants; and in his *Treatise* on Conics he attempted to describe curves from the fact that they are curves in perspective. His arcs of circles in perspective. Cosmographia appeared in 1543.

Maurus Terentianus (fl. 100 A.D.), a Latin grammarian and poet, wrote a poem on native prosody, entitled De litteris, syllabus, pedibus, metris. was first printed in 1497.

Maury, Jean Siffrein (1746-1817), a French cardinal and orator, was a cobbler's son. In 1771 he penned a much-admired éloge on Fénelon, and in the following year his Panégyrique de Saint Louis met with a most cordial reception. In 1785 he was elected to the French Academy. During the sittings of the National Assembly, from 1789 to 1792, he defended the Church and the 'ancien regime' with bravery and with a lively wit which succeeded in disarming his opponents. Pope Plus VI. welcomed him on his emigration (1792), and in 1794 he became cardinal. The acceptance on his forcemyich 57° 17' to 57° 46'. The surface is of varied formation, a great portion being volcanic, while its coast is fringed by extensive coral reefs plerced in several places by the plerced in several places by the definition of subsequent disgrace and imprisonment. His Essai sur l'éloquence de la chaire (1777) has become a classic. Maury, Matthew Fontaine (1806-72) an American naval officer, astro-

In 1825 nomer, and hydrographer. In 1020 he was appointed midshipman in the United States navy, and in 1836 he was made lieutenant, but being lamed by an accident he was appointed to the Hydrographical Office at Washington. While there he at Washington. While there he wrote his *Physical Geography of the Seas* and his works on the ocean currents and great circle sailing. In 1855 he was made commander, and published several works.

Maurya is the name of a great dynasty which was supreme over Northern India for 137 years. In 321 B.c. Chandragupta Maurya captured the throne of Magadha (or Behar), and established an empire stretching from the Arabian Sea to the Bay of Bengal. The greatest of the Maurya kings was Asoka, the founder sgrandson: the last was Brihadratha. Mausoleum is essentially a large

and imposing sepulchral monument. The word is derived from Mausolus, King of Carla, to whose memory Artemisia, his wife, raised in 353 B.C. a splendid tomb, for centuries the glory of the Asiatic city of Halicar-nassus. The remains of the colossal Maurolico (or Marullo), Francesco group, which once crowned the two

colonnaded tiers, now rest in the station with Macquarie Island. British Museum. The most ambitious failed to catch the relief expedi mausolca are those of Augustus and Hadrian (the Castle of San Angelo) at Rome. Those of Frederick William III. and Queen Louisa at Charlottenburg near Berlin; of Napoleon III. at Farnborough; and of the Prince Consort at Frogmore are also noteworthy.

Mauve was first patented as a dye by Mr. Perkin in 1856. It was the first colour obtained from aniline, being produced by treating it with chromic acid or the hypochlorites.

Mauve, Anton (1838-88), a Dutch landscape painter, was a friend of Israels and Maris. His rural pictures breathe sombre peace, and are attractive for the very delicacy of their tonal scheme.

Maverick, an American expression for stray cattle. The word recalls a Texan, Samuel Maverick, who took advantage of the turmoil caused by the Civil War and freely appropriated any cows that he caught straying.

Mavrogordato, Mavrocordato, or Mavrocordatos, the name of a distinguished family of Phanariot Greeks.

Alexander Mavrocordato (c. 1636-1709) was a doctor of philosophy and medicine, who was very influential at the court of Sultan Mustapha II. was he who arranged the Peace of Karlowitz (1699).

Nicholas Mavrocordato (1670-1730) was Alexander's son. He was prince (hospodar) of Wallachia, and ruled the Danubian principalities for the sultan, exciting the bitter indignation of the Rumanians by his Hellenising efforts.

PrinceAlexander Marrocordato (1791-1865) was a descendant of Nicholas. He defended Missolonghi during the Greek War of Independence (1822-23). In 1832 he was chosen vice-president of the Greek national assembly at Argos, and the following year he became first minister to King Otto. He was Greek ambassador at Berlin, London, and Constantinople, and on two later occasions (1844 and 1855) the vicissitudes of the political situation brought him to the head of affairs.

Mawson, Dr. Douglas (b. 1882), an explorer and geologist, born in Bradford, Yorkshire, England, who before leaving for exploring in the Antartic (1912) was lecturer in geology in the university at Adelaide, Australia. He was appointed to the scientific staff on the expedition to the New Hebrides; to R. F. Scott's and Sir E. Shakleton's expeditions to the Antarctic. He is now absent (1913) on Dr. Mawson's Antarctic expedition in Adelic Land, where he has been

failed to catch the relief expedition. and must wait another year in the Antarctic.

Maxcanu, a com. in the state of Yucatan, Mexico, 36 m. S.W. of Mérida. The grotto of M. is lcoked upon as sacred. Pop. 10,000.

Maxentius, Marcus Aurelius Valerius (306-312 A.D.), Roman emperor, put his rival, Severus, to death, and banished his father, Maximianus, to Gaul. Eventually, after a desp.cable display of cruelty, vice, and incapacity, he was drowned in the Tiber whilst fleeing from Constantine, who had defeated him at Saxa Rubra.

Maxillaria, a genus of terrestrial orchids with thick fleshy flowers occur-

ring mainly in Central America. Maxim, Sir Hiram Stevens (b. 1840). an American civil, mechanical, and electrical engineer, born in Maine, U.S.A. He first made experiments and improved steam engines, and invented an automatic gas engine. He then studied electricity, invented an incandescent electric lamp, and the method of using carbons in electric lighting. His great work, however, is the automatic system of fire-arms, and he has recently turned his attention to aerial flight. He was formerly connected with the firm of Vickers, Sons, and Maxim.

Maxima and Minima. Many mathematical problems are comprised under this head. For example, a line of given length may be made to enclose various shaped and sized figures; what is the greatest space it can be made to en-A number is the sum of two other numbers: of all the pairs that can be selected, which pair will show the greatest product? Many such problems were stated and solved by the ancient Greeks. Euclid has many propositions of this nature solved by geometrical methods. Such problems are of great practical value in the useful arts; c.g. given a certain amount of metal what dimensions for a cylindrical cistern will provide the greatest capacity? Or again, given a log of wood, what dimensions on cut-ting to a rectangular beam will give the greatest strength? In each problem a maximum or minimum has to be found. The study of curves, the conditions of their formation by a moving point has led to greater complications; there are three phases to be determined: rise, fall, and turning. A curve attains a maximum at the moment it ceases rising and commences to fall; a minimum at the moment it ceases to fall and commences to rise. Or, in algebraic language, when any value y of a function is greater than the immediately occasionally in touch by his wireless neighbouring values, both before and

after, it is called a maximum value of and entrusted with the command of the function; when any value y of Illyria and Thrace. Upon the abdicaa function is less than the immediately a rateton is sess than the immediately neighbouring values, both before and after, it is called a minimum value of the function. There may be many maxima and many minima, and a maximum value according to the definition above is not necessarily the greatest value the function may have. Considering an irregular wavy curve each maximum or minimum is the highest or lowest point occurring in any phase, and a minimum may have a higher value than a maximum. Bernoulli in 1896 propounded and solved problems by methods which became known as 'isoperimetrico.' This was extended by Euler, and led to the invention by Lagrange of the calculus of variations. Practicular calculus of variations. Practically speaking, the subject is now investi-gated by the differential calculus. Curves are considered from the point of view of gradient; the gradient is represented by the symbol $\frac{dy}{dx}$. law of a curve is shortly expressed as f(x), its value at any point is y. As the gradient is itself a function of x,

 $\frac{dy}{dx}$ is a derived function, or, shortly, the derivative. So long as a curve is increasing towards a maximum its derivation is positive, with decrease negative. At the turning points the

gradient is 0, i.e. $\frac{dy}{dx} = 0$. Maxima

occur, therefore, when $\frac{dy}{dc} = 0$ when changing from positive to negative;

minima, when $\frac{dy}{dx} = 0$ in changing from negative to positive. See most ele-

mentary treatises on algebra, e.g. Chrystal; any book on differential calculus; an excellent book is Perry's Calculus for Engineers (London, Edward Arnold).

Maximianus I., a Roman emperor, 286-305 A.D., originally a Pannonian soldier, was made by Diocletian his colleague in the empire, but was compelled to abdicate along with the latter. When his son, Maxentius, assumed the imperial title in the following year (306), he resided some time at Rome, but being expelled from the city by Maxentius, he took refuge in Gaul with Constantine, who had married his doubther Engets. had married his daughter, Fausta. Here he was compelled by Constantine to put an end to his own life, in the year 310.

Maximianus II. (Galerius Valerius Maximianus) (305-311 A.D.), Roman emperor, the son of a shepherd. He served in the wars of Aurelian and Probus, and in 292 was made Casar,

Illyria and Thrace. Upon the abdication of Diocletian and Maximianus I. in 305, he became Augustus, but in 307 suffered defeat at the hands of the usurper Maxentius and lost Italy and Africa. The rest of his life was spent in works of public utility. His pittless persecution of the Christians was a great blot on his reign.

Maximilian I. (1459-1519), one of the most distinguished of the German

emperors, the son and successor of Frederick III., was born at Neustadt, near Vienna. In his nineteenth year he married Maria, the heiress of Charles the Bold, Duke of Burgundy, Charles the Bold, Duke of Burgundy, and was soon involved in war with Louis XI. of France, who attempted to seize some of her possessions. M., although successful in the field, was compelled, by the intrigues of Louis in the Netherlands, to betroth his daughter, Margaret, then four years old, to the Dauphin, afterwards Charles VIII., and to give Artois, Flanders, and the duchy of Burgundy as her dowry. In 1486 he was elected king of the Romans. Insurrections in the Netherlands, encouraged and supported by France, again involved him in war with Louis XI. He afterwards repelled the Hungarians and wards repelled the Hungarians and the Turks. He again took up arms against France because Charles VIII. sent back his daughter and married Anne of Bretagne, in order to acquire that great province. A peace was, however, soon concluded at Senlis in 1493, M. receiving back the provinces which he had given with his daughter. On the death of his father in 1493, he became emperor, and he subsequently married Bianca Sforza, daughter of the Duke of Milan. He applied himself with wisdom and vigour to the internal administration of the empire, took measures for the preservation of peace in Germany, and encouraged the cultivation of the arts and sciences. But he was soon again involved in wars against the Swiss, the Venetians, and the French. He sought to put a stop to French conquests in Italy, and was at first successful, but ultimately he had to give up Milan to France and Verona to the Venctians. Nor was M. more successful against the Swiss, who in 1499 completely separated themselves from the German way of the Swiss of man empire. The marriage of his son Philip with the Infanta Juana, and of his daughter Margaret with the Infant Juan of Spain, led to the subsequent union of Spain, with Austria, whilst the marriage of two of his grand-children with the son and daughter of Ladislaus, King of Hungary and Bohemia, brought both these kingdoms to the Austrian monarchy. He works works on war and hunting. wrote works on war and hunting.

Maximilian II., Joseph (1811-64), and Egypt in 305. In 308 he assumed King of Bavaria, son of Ludvig I., the title of Augustus, and on the was born and died at Munich. He married in 1842 the Princess Maria succeeded to the command of the Hedwig. Until 1848 he took no part provinces of Asia, and entered into a in political affairs, but devoted himself to agricultural and other improvements and to the pursuits of literature and science. In that year of the revolutionary excitement, he was suddenly called to the throne on his father's abdication, and adopted a policy accordant with the liberal

tendencies of the time. tendencies of the time.

Maximilian, Ferdinand Joseph, Archduke (1832-67), son of Archduke Francis Charles of Austria, and sonin-law of Leopold I., King of the Belgians, whose daughter, Charlotte, he married in 1857. Made governor of Lombardo-Venetia in 1857 by his of Lombardo-Venetia in 1857 by his brother, Emperor Francis Joseph, in pursuance of his policy to conciliate the Italian republics, but M.'s chival-rous nature availed nothing against the implacable hatred of Italy for Austria. Forfeited all his Austrian rights on being proclaimed Emperor of Mexico by the French troops after the capture of Puebla in 1863. position as the nomince, on the one hand, of France in that nation's en-deavours to enhance its prestige abroad, and the obstacle, on the other hand, to the American determination to enforce the Mor trine (q.v.) rendered him

between the Liberal and Mc parties of Mexico, while his difficulties were increased by the machinations of Bazaime, the French commander, who was endeavouring to supersede him. On his abandonment by France in 1866, he was shot at Queretaro, probably by the orders of

Juárez.

Maximinus, Caius Julius Verus, was originally a Thracian shepherd. He was of gigantic size and great bodily strength. Alexander Severus gave him the command of a new legion raised in Pannonia, at the head of which he followed Alexander in his campaign against the Germans on the banks of the Rhine, where he induced some of his companions to murder Alexander in his tent as well as his mether Memores (225). as his mother, Mammaca (235 A.D.). He was proclaimed emperor, but his cruelty and rapacity aroused enemies against him in various parts of the empire. Ho was killed by his own soldiers in 238 A.D. when he was besieging Aquileia.

Maximinus, Galerius Valerius (308-Roman emperor, originally bore the name of Daza, and in early life followed the occupation of a shepherd. Having quitted this for the life of a soldier, he was raised to the rank of Cæsar, and made governor of Syria

the title of Augustus, and on the death of his uncle, Galerius, in 311, secret alliance with Maxentius, Having invaded Thrace in 313 in the absence of Licinus, he suffered a crushing defeat near Heraclea, and was forced to flee. His death took

place at Tarsus. Maximus, Magnus Clemens (383-88 A.D.), Roman emperor, a native of Spain. He accompanied Theodosius on several of his expeditions, and remained for some years as a general in Britain. Here he was elected emperor by the troops in 383, and immediately crossed to Gaul to attack Gratian. The latter was defeated and slain, and Gaul, Spain, and Britain did homage to M. In 387 he crossed the Alps, put Valentinian to flight, and established himself in Milan, but was defeated by Theodosius at Sixia, on the Sace, and again at Poetovio on the Danube, being subsequently captured and put

being subsequently captured and put to death at Aquilela.

Maximus, Petronius Anicius (455 A.D.), Roman emperor, was a member of the high nobility of Rome. At the age of ninetcen he was admitted to the council of the Emperor Honorius, and in 420 held the office of becoming consul in the state of the comming consul in the comming consultant consultant

443. He was friendly III. until the Em-peror outraged his (M.'s) wife, after which M. murdered him in 455. M. was elected emperor immediately, and married the widowed Empress Eudoxia, but was killed by the Vandals the same year.

Maximus, Rutilius, a Roman jurist who wrote a treatise entitled Ad Legen Falcidiam, which was enacted

40 B.C. Maximus Tyrius, a rhetorician and Platonic philosopher, lived in the Platonic philosopher, lived in the latter half of the 2nd century, during the reigns of the Antonines and of Commodus. There are extant forty one dissertations of M. T. on various points connected with the Platonic philosophy, which are written in an easy and pleasing style, and more commendable for the expression than the matter. The following expression will give some idea of the amples will give some idea of the subject of these dissertations: 'On Plato's Opinion respecting the Delty,' Whether we ought to return injuries done to us,' Whether Prayers should be addressed to the Deity, etc. The dissertations have been trans-lated into French by Forney (1761) and by Dounais (1802).

Maxlef, Francis (1662-1728), a French Orientalist, born at Amiens and later director of the seminary

His principal work is his sity (1910), and is at present president there. Grammaires chaldaique et hebraique, of the Society of Antiquaries of Scot-considered as one of the finest works land. He is well known as a writer, of its kind. In it he opposes the and among his works are: Studies in

Dessau and Leipzig Berlin and Paris.

the Rig-Veda at their expense, and Sixty Years a Queen, 1897; Salmon this work brought him to England in and Sea Trout, 1899; Life of the Duke 1846 to consult the MSS, in the East lef Wellisder. the Rig-Veda at their expense, and this work brought him to England in 1846 to consult the MSS. in the East of Wellington, 1900; The Chevalier India House and the Bodleian Library. He settled at Oxford in 1850 upon his appointment as deputy Taylorian professor of modern languages. Four years later he 1903; British Freshwater Fishes, succeeded to the professorship. He 1904; The Story of the Freshwater Fishes, became connected with the Bodleian Library in 1856, and from 1865-67; 1907; Scottish Gardens, 1908; Chroniwas curator of Oriental works. In 1866 he was made professor of comparative philology. He received 1909, vol. ii. 1910, vol. iii. 1911; many honours and distinctions, and was made a member of the Privy Taylor Chronicles relating to Scotland, 1912. parative philology. He received many honours and distinctions, and was made a member of the Privy Council in 1896. His works include: Comparative Philology, 1856; A History of Ancient Sanskrit Literature, 1859; Lectures on the Science of Language, 1861-64; Handbooks for the Study of Sanskrit, 1865-70; Chips from a German Workshop, 1868-75, etc. He edited the Sacred Books of the East, and published translations of various Oriental works. See his Auld Lang Syne, 1898.

Max O'Rell, alias Paul Blouët (1848-

1903), a writer, born in Brittany. He was educated in Paris, and laving served in the Franco-German War, came to England in 1873 as a newspaper correspondent. He was French master in St. Paul's School (1876-84). and subsequently lectured in the United States, Canada, Australia, New Zealand, and S. Africa. All his books have been translated into books have been translated moderated by his wife, and amongst them are: John Bull and his Island, them are: John Bull and his Island, them are: John Bull and his Island, them are: 1885; 1883; John Bull's Daughter, 1885; The Dear Neighbours, 1886; Drat the Boys, 1887; Jonathan and his Conti-nent, 1890; A Frenchman in America, 1891; John Bull & Co., 1894. Maxwell, Mrs. John, see Braddon,

MARY ELIZABETH.

Maxwell, Sir John, see HERRIES. Maxwell, Rt. Hon Sir Herbert Eustace, seventh Baronet (b. 1845), a writer and politician, born in Edin-burgh. He was educated at Eton and Christ Church, Oxford, and was M.P. for Wigtownshire (1880-1906). He He was Rhind lecturer in archæology, Edinburgh (1893-1911), lecturer on Scottish history in Glasgow Univer- acceptance.

of its kind. In it he opposes the introduction of root-vowels. See Querard, La France Litteraire.

Max-Müller, Fredrich (1823-1900), a philologist and Orientalist, born at Dessau, where his father, Wilhelm Müller, was librarian of the ducal library. After bein and among his works are: Stuates in the Topography of Galloway, 1887; The Letter of the Law (a novel), 1889; The Letter of the Law (a novel), 1890; at Dessau, where his father, Wilhelm Life of the Right Hone, W. H. Smith, Müller, was librarian of the ducal library. After bein contact the contact of the second contact of the Cont

ie Struggle for Scottish 1897; Memories of the

Maxwell, James Clerk- (1831-79), a Scottish physicist, born at Edinburgh; educated at the Edinburgh Academy and the universities of Edinburgh and At the early age of Cambridge. At the carry many fifteen he sent to the Royal Society of Edinburgh a paper on the 'Description of Oval Curves,' and during the home wears followed it up by 'On Cambridge. next three years followed it up by 'On Rolling Curves,' and the Theory of Rolling Curves, and On the Equilibrium of Elastic Solids, In 1856 he became professor of natural philosophy at Marischal College, Aberdeen, and in 1860 held the same post in King's College, London Maria College, London Maria College, London Maria Carlos don. Member of the Royal Societies of London and Edinburgh. On the endowment by the Duke of Devon-shire of Cambridge University with a model laboratory of experimental physics, M. was elected unanimously as the first professor of experimental physics in that university. M. is chiefly notable for his important researches in electricity and magnetism, his most remarkable papers on this topic being 'Physical Lines of Force' (1862), 'On a Dynamical Theory of the Electro-Magnetic Field' (1864), and 'On a Method of making a direct Comparison of Electrostatic Electro-Magnetic Force ' (1866). He also investigated the molecular constitution of matter, the kinetic theory of gases, and geometrical optics, and wrote treatises on Heat, The Heat, 1... Heat, Matter Dynamical Theory of Gases, Matter and Motion, and Magnetism and and Motion, and Magnetons and Motion, and theory re electrical and magnetic forces is gaining wide

Maxwell, Robert, Lord (d. 1546), was a member of a Scottish family which settled near Kelso about 1100. He was a member of the royal council under James V., a warden of the west marches, and a lord provost of Edinburgh. He was also an extraordinary lord of session in 1533, and one of the regents in 1536. He was taken prisoner by the English at the rout of Solway Moss in 1542.

Maxwell, Sir William Stirling-(1818-78), an historian, born near Glasgow. He was an ardent bibliographer and collector of works of art, and especially a pioneer of Spanish art. writings include: Annals of theArtists of Spain, 1848 (Velazquez issued separately, 1855); The Cloister Life of Charles V., 1852 (enlarged 1891); and monographs on the bibliography of proverbs. He also contri-buted to Fraser's Magazine and the Examiner.

Maxwelltown, a tn. in Kirkcud-brightshire, Scotland, on the Nith, opposite Dumfries, with which it is connected by bridges. It has dyeworks, sawmills, and nurseries, and An observatory, manufs. tweed. with a museum, is situated Corbelly Hill, quite near to М. Pop. (1911) 6200.

May, the fifth month of the year and the last of spring. It was the third month in the Roman calendar, and was called M. probably after Maia, the mother of Mercury, to whom the Romans used to sacrifice on the first day of this month. was regarded by the Romans Ιt an unlucky month, especially for marriages, and the superstition still survives in some parts

May, Isle of, in the Firth of Forth. Fifeshire, Scotland, 51 m. S.E. of On the highest point of the

island is a lighthouse. May, Philip William (1871-777) commonly known as P humorous artist; after an

ous career as a lad, came f as an artist with his illustrations to duces or constitutes the Isvara, the The Parson and the Painter (1891). He published Annuals from 1892, and contributed sketches of low life to numerous papers. In 1896 he became a member of the staff of Punch. He was one of the greatest black and white artists, and a lineal descend-ant of Leech and Keene.

lish writer, born in Sussex. He admitted to Gray's Inn in 1615, being prevented by defective ut ance from practising the law, gave himself up to literature. He first produced a comedy entitled The Heir. which is much praised by Thomas Carew, and followed this by another Carew, and followed this by another of the Guatemalan plateaux. They comedy, and three classical tragedies, inhabited Mexico, Yucatan, Guate-

but none of these met with success. His next venture was translation, and he published in 1628 a version of Virgil's Georgics, and the following year Martial's Epigrams. Besides these he translated Lucan's Pharsalia, which met with unstinted praise from Ben Jonson, and in 1633 he was commissioned by the king to write two narrative poems, one on *Henry II.*, the other on *Edward III*. His reputation as a prose writer rests upon his History of the Long Parliament, which is described by Chatham as being 'a much honester and more instructive book than Clarendon's.

May, Sir Thomas Erskine, Baron Farnborough (1815-86), a constitu-tional jurist, born in London. He was assistant librarian of the House of Commons in 1831, and a barrister at the Middle Temple in 1838. In 1814 he published A Practical Treatise on the Law, Privileges, Proceedings, and Usage of Parliament (10th ed. much enlarged, 1893), a learned work which has been translated into German, French, Italian, Spanish, Japanese, and Hungarian. He was examiner for private bills and taxing-master for both Houses of Parliament, 1847-56, and clerk of the House of Commons, 1871-86. He was president of the Statute Law Revision Committee, 1866-84, a member of the privy council, 1885, and created Baron Farmboroust. Farnborough in 1886. Besides the work mentioned above he published The Constitutional History of England since the Accession of George III., a work worthy to rank with that of Hallam; and Democracy in Europe: A History.

Maya, a riv., in the prov. of Yakutsk, E. Siberia, Russia, is a tributary of the Aldan, joining it on the r. b. after a course of 600 in. in the prov. of

Maya, illusion (otherwise called power),

fictilious with the sha) pro-

Lord, or cosmic soul, the first emanation of the Atman, and himself the (fictitious) cause of all that seems to exist.

me a member of the staff of Punch.

e was one of the greatest black and hite artists, and a lineal descendat of Leceh and Keene.

May, Thomas (1595-1650), an English writer, born in Sussex. He

May Thomas (1595-1650), an English writer, born in Sussex. He

forms of a common language, and is derived from the two most important members of the group, the Mayas of the Yucatan plains and the Quiches

mala, and Honduras, and represented and townspeople. And all who wished the most cultured inhabitants of Cen-tral America at the time of the Spanish conquest. Among the various nations may be mentioned the Mayas. Chols, Zendals, Mamés, Lacandons, Pocomans, Cachiquels, Quichés, Itzas, Poconchis, Huaxtees,

Žotzils. Mayas, a race of American Indians, the aborigines of Yucatan. They were the most advanced of the American Indian races, and had a written language, and left numerous examples of MSS, and picture writing. In religion they had much in common with the Aztecs, and worshipped the sun and idols carved from stone; they also at times had human sacrifices. paid more attention to war. They lived well, dressed in cotton woven by themselves, and were expert leather workers. They also made many ornaments of gold and green-stone, but they were especially skilful in architecture and in carving in stone. They erceted buildings of vast size which they decorated in a wonderful manner, and though these cannot compare with the buildings of Egypt and Grecce, their massive character and lavish wealth of carvings attest a civilisation far superior to that of many civilised peoples in the Old World. One of the most famous Mayan works of art is in the temple of Palenque, which contains a remarkable tablet on which is represented a sacrificial scene.

Mayavaram, a tn. in the Tanjore dist., Madras, British India, 174 m. S.W. of Madras. It manufs. cotton and silk goods. Pop. 24,500.

Maybole, a tn. in the co of Ayrshire, Scotland, 8 m. S. of Ayr; possesses an old castle. The chief industry is the manufort shoes. Pop. (1911) the manuf. of shoes. Pop. (1911)

May Day, the 1st of May, was formerly celebrated throughout Great Britain, and to a lesser extent in France and Germany, with festivities, which now only survive in a few rural district. districts. They are the direct descendants of the ancient Roman Floralia, and of the Druidic feasts in honour of the god Bel. In Tudor England the custom seems to have been for people to go into the woods in the night, gather branches of trees and flowers, and return with them at sunrise to decorate their houses. Then there was the crowning of the May Queen, who held sway for one day over her court, consisting of morris dancers, Robin Hood, Maid Marian, Friar Tuck, Little John, and other members of the

danced round a maypole decorated with flowers and ribbons. The maypole was generally made of birch, and was set up on April 30, except in London where permanent may poles stood in the streets. The May revels were much censured by the Puritans, and in 1644 maypoles were forbidden to be erected by the Roundhead parliament. They were, however, sanctioned at the Restoration, and in 1661, a cedar pole, 134 ft. high, was creeted in the Strand. It was taken down about 1717 and used by Sir Isaac Newton as a support for the great telegraphy which had been presented. telescope which had been presented to the Royal Society by a French astronomer.

Mayebashi, a tn. of Honshiu, Japan, 70 m. N.N.W. of Tokio. It trades chiefly in silk. Pop. 45,000.
Mayen, a tn. in the Rhine Province, Prussia, 15 m. W. of Coblenz. The

chief manufs. are cloth and tobacco. It has also breweries and tanneries. Pop. 14,423.

Mayence, see MAINZ. Mayenne: 1. A dept. of W. France,

formed from parts of the old prov. of Maine and Anjou. M., which is in-cluded almost entirely within the basin of the Loire, has a mild climate but only a partially productive soil, being occupied in many districts by extensive sandy heaths. The chief branches of industry are the breeding of cattle and sheep and the rearing of bees, while the iron mines and marble quarries of the district yield employ-ment to the poorer classes. The linen, hemp, and paper manufs. are of some importance. Cap., Laval. Area 1986 sq. m. Pop. 297,732. 2. A tn. of the above dept. on the Loire, on the r. b. of which rises, on a steep and rocky height, the ancient fortress of the dukes of Mayenne. There are linen and calico manufs. Pop. 10,000. 3. A riv. in the N.W. of France, which rises in the dept. of Orne, and de-bouches at Pont de Cé into the Loire.

Length 130 m.
Mayer, Julius Robert von (1814-78), Mayer, and studies robert von (134-76), a physicist, born at Heilbronn. He studied at Tubingen, Munich, and Paris, and subsequently settled as a physician in his native town. In 1842 he published Bermerlungen über die Kräfte der unbeleblen Natur, as a proliminary to Die organische Bewegung in ihrem Tusammenhange mit dem Sloffwechsel, which appeared three years later. Both of these deal with the conservation and transformation

of energy.
Mayer, Simone (c. 1760-1845), an opera composer, born at Mendorf in opera composer, born at Mendorf in Mendorf Bavaria. He studied in Italy, and having previously produced songs same band, as well as of the villagers and oratorios, published his first opera, Saffo, ossia i riti d'Apollo Leucadio in 1794. This was so well received that he devoted himself to this mode of composition, and produced no less than 77 operas. Among his best are: Lodoïska, 1800; Ginevra di Scozia, 1801; Medea, 1813; and Rosa bianca e Rosa rossa, 1814. He is said to have been the first to intro-duce the crescendo of the orchestra, to which Rossini owes so much of his

Mayer, Tobias (1723-62), was born at Marbach. He was left an orphan and unprovided for at a very early He taught mathematics for a living, and studied gunnery in his spare time. He published a memoir in 1750 On the Libration of the Moon. In 1751 he became director of the observatory at Göttingen, and afterwards professor of economy in that university. His Zodiacal Catalogue was his next work. In 1755 he published his Lunar Tables. These tables were printed by the Board of Longitude in the year 1767, and likewise the Solar Tables, by the same author, in the year 1770. To M. is also due the discovery of the principle of the repeating circle, which was afterwards so fully developed by Borda, and employed by him in the measurement of the arc of the meridian.

Mayfair, a fashionable quarter of the W. of London, which is situated N. of Piccadilly and the Green Park.

Mayfield, a tn. of Kentucky, U.S.A., His Zodiacal Catalogue university.

Mayfield, a tn. of Kentucky, U.S.A., co. seat of Graves co., 24 m. S. of Paducah. Pop. (1910) 5916.

Mayflower, see PILGRIM FATHERS. Mayfly, see EPHEMERA.

Mayhew, Augustus Septimus (1826-75), an author, brother of Henry M. and Horace M., born in London. He produced many popular works of fiction with his brother Henry, the best of which is The Greatest Plague of Life, or the Adventures of a Lady in Search of a Good Servant. Of his separate writings may be mentioned: Paved with Gold, or the Romance and Reality of the London Streets, 1857; and Faces for Fortunes (3 vols.), 1865. Mayhew, Henry (1812 – 87), an

author, was educated at Westminster, but ran away from school and made a voyage to Calcutta. On his return; he was articled to his father, a London solicitor, but soon abandoned the building. law for literature. His first production naw for interature. His inst production was the weekly periodical, Figaro in London, which he published with Gilbert a Beckett in 1831, and followed this by The Thief in 1832. He also collaborated with his brother Augustus, and produced with him, among other works, The Good Genius, The Plague of Life, and Acting Chandles. He also wrote hyporous Gilbert à Beckett in 1831, and followed this by The Thief in 1832. He also collaborated with his brother The coast-line of M. is about 250 m. and so collaborated with his brother The coast-line of M. is about 250 m. and is much indented by bays, the among other works, The Good Genius, The Plague of Life, and Acting Charades. He also wrote humorous stories and books on travel:

Mayhew. Horace (1816-72) the author of a number of farces and tales which owe their survival mainly to Cruikshanks' illustrations. He also contributed to Lloyd's Weekly News and Cruikshanks' Table Book, and was for a time sub-editor of Punch.

Maynard, a tn. in Middlesex co., Massachusetts, 20 m. N.W. of Boston, on Assabet R. It has woollen manufs.

and powder mills. Pop. (1910) 6390.
Maynard, Sir John (1602-90), an
English judge, born at Tayistock. He was called to the bar in 1626, and in 1640 was appointed recorder of Ply-He represented Totnes in the Short Parliament of 1640 and the Long Parliament, and in 1654 was called to the degree of serjeant atlaw, becoming king's serjeant at the Restoration. He was member for Plymouth in the convention (1689), and was sworn lord commissioner of

Mayne, Jasper (1604-72), an arch-deacon of Chichester and dramatist, was educated at Westminster and Christ Church, Oxford, and took his degree of D.D. in 1646. He was rector of Cassington in 1639, and during the Civil War often preached before the king, but was elected in 1648 and made rector of Pyrton, only to be deprived of this post in 1656. He was, however, reinstated in his benefices at the Restoration, and made a canon of Christ Church, archdeacon Chichester, and chaplain-in-ordinary to the king. He wrote The City Match, a domestic comedy, 1639; The Amorous War, a tragi-comedy, published 1648; and a translation of Lucian's

Dialogues, begun in 1638. Maynooth, a tn. of co. Kildare, Ireland, 15 m. N.W. of Dublin. Its chief interest is centred in its Roman Catholic college, which was estab-lished during the ministry of Mr. Pitt in the year 1795, by an Act of the Irish parliament. In the year 1846 Sir Robert Peel carried a bill for an increased and permanent endow-ment, no longer dependent on a vote of parliament, of £26,000 a year, to which was added a grant of £30,000 for building purposes. The college is a very striking Gothic structure, and receives 500 students all destined for the priesthood and all resident within The full collegiate course is of eight years. A new chapel was erected in 1890.

Mayo, a maritime co. of the prov-

151 being part of the great plain of Ire- organisation. land, bordered by two ranges of nountains, separated from each other at the sea by Clew Bay. Of these ranges the highest points are Muilrea (2680 ft.), Croagh Patrick (2370 ft.), and Nephin (2530 ft.). The soil of the central plain is fertile and for the most part suitable either for tillage or for pasture, although the prevalence of rain and the frequency of ungenial winds render the pursuit of tillage, especially of wheat and potatoes, precarious and unremunerative. The rearing of cattle forms in most parts of the county the more ordinary pursuit of the agricultural Ironstone abounds in population. some districts, but owing to want of fuel no attempt is made to work it. An excellent marble is found in the north-western district, and there are several places in which slates are successfully quarried. The chief towns are Castlebar, Westport, towns are Castlebar, Westport, Ballina, and Ballinrobe, and the principal rivers are the Moy and the Owenmore. Loughs Callen, Com, Castlebar, Corramore, and Carragh lie omits to act. In other words he must within the county. Almost the only occupations of the population are agriculture and fishing. A valuable record, held before the mayor and salmon-fishery exists in the R. 'London at the and the small lake of Lough Mi

abbey, which dates from the 12th century. The celebrated 'Cross of Cong,' now in the Museum of the Royal Irish Academy, was the archiepiscopal crosier of Tuam, once preserved in the abbey of that name.

Mayon, a volcano in the prov. of Albay, Luzon Is., Philippine Isles. Its cone, which is perfect, rises to a height of 8274 ft., and the mountain

is frequently in cruption. Mayor. A M. was originally an overseer, or steward, or kind of bailiff, if the derivation from Norman macur, mair, be correct, and the word really

tively late development of the borough

Everywhere the M .. organisation. Everywhere the All, whatever his particular functions, appears to have risen to eminence, but none to so great a degree as the 'Mayor of the Palace,' or first officer of the royal household of the Merovingian kings. This officer became successively chief officer of that whister of the relocand but state, minister of the palace, and king, for the last of them, Pepin, after de-posing Childeric IV., founded the Carlovingian dynasty (A.D. 750). The M. at the present day as the head of a municipal corporation is in a prominent a term of

under and MUNICIPALITIES.) In times of riot or civil disorders he has power, and indeed is compelled, to call in the aid of troops—a power the exercise of which in certain circumstances may place him in a very unenviable position (see Regina v. Pinney, 1866), for technically at least he may be liable to criminal proceedings for murder if he acts without justification and to an information for neglect if he

stomary juris-of London in

the habitation of the many that the labitation of the most impoverished count freland. Area 216 sq. m. Pop. (1911) separate tribunal in the reign of 191,169. The antiquities of M. are chiefly ecclesiastical. Four round the aldermen are the judges, but the towers are still in existence, and there towers are still in existence, and there is the aldermen are the judges, but the recorder by custom sits as the sole judge, or, in his absence, the commence of the commence of the sole in the 12th many serjeant, who in his turn, if unavoidably absent, may be represented avoidably absent, may be represented. There is much antiquarianism about the M. C., both as to the names of its officials—e.g. the duties of a sheriff are carried out by the serjeant-at-mace and the deputy serjeant-at-mace—and as to the formalities of pleading. Elsewhere the strict letter of formal pleadings has been superseded by the necessity of doing nothing more than to state the issues in clear and unequivocal terms; but in the M. C. it is still (apparently) neces-sary to observe the traditional forms cognate with Armoric mear, i.e. one start to observe the traditional forms that looks after, tends, or guards, e.g. of a count sur concessit solver (claim marry biswal, a land steward. Others, however, derive the word from Lat. major = greater, superior; plural, ancestors, a derivation of central tradition of central tradition of chief magist through magnus), whereas in English through magnus), whereas in English history the mayoralty is a comparatively late development of the borough

tised as a physician in Bath. He published Tractatus quinque medico-physici, 1674; containing De sal-nitro et spiritu nitro-ærco, which develops a theory of combustion, and important modern discoveries in Important pneumatic chemistry. See Hoefer, Hist. de la Chimie, ii.; Blumenbach, Institutiones Physiologica, 1786;

Nother, Gelchrien-lexicon, iii., 1751.
Maysville, the cap. of Mason co.,
Kentucky, U.S.A., on the Ohio R.,
60 m. S.E. of Cincinnati. The chief manufs. are cotton, flour, tobacco, and shoes. Pop. (1910) 6141.

Mayweed, a name given both to the Stinking Camomile (Anthemis cotula) and to the scentless Corn Feverfew (Matricaria inodora), the ray florets of which are ultimately reflexed.

Maywood, a tn. in Cook co., Illinois, U.S.A., 10 m. N. of Chicago, on the Des Plaines R. It has important steel works. Pop. (1910) 8033.

Mazagan, a seaport tn. of Morocco, 115 m. N. of Morocco. This town is the port of Morocco, and its road-stead affords facilities for a safe anchorage. The chief exports are grain, almonds, hides, and wool. Pop. 25,000.

Mazamet, a tn. in the dept. of Tarn, France, 50 m. S.E. of Toulouse. Its chief manufs. are cloth, leather, and flannel. Pop. 14,000.

Mazanderan, a prov. in the N. of Persia, bounded by the Elburz Mts. and the Caspian Sea. The climate is unhealthy, and the ground somewhat swampy, but fertile. The chief productions are rice, cotton, sugar, agri-cultural products, caviare, and silk. The chief minerals are iron and petroleum. Area 1 Pop. 200,000. Area 10,460 sq. m. Cap. Sari.

Mazapil, a tn. of Zacatecas state, Mexico, 65 m. S.S.W. of Saltillo. Pop.

6000.

Mazarin.

Mazzarino) statesman, s. noble Sicilian, was born at Piscina in the Abbruzzi. Having received his elementary education at Rome, he passed into Spain with the Abbé (afterwards Cardinal) Girolamo Colonna, at the age of seventeen, where he attended courses of law in the universities of Alcala and Salamanca. But he soon abandoned jurisprudence in order to embrace the military profession, and in 1625 was sent into the Valteline, where the pontiff then had an army. From this time he began to display his talents

lish chemist and physiologist, prac- wards Marshal d'Estrées, who commanded the French troops, and in both missions he acquitted himself. He then returned to Rome, where he resumed the study of jurisprudence and took his doctor's degree. But the disputed succession to the duchies of Mantua and Montferrat having findled up a new war, he quitted law for diplomacy, in which line nature had peculiarly qualified him to excel. The competitors were the Dug de Nevers, whose cause was espoused by the court of France, at which he resided and the Duca de Guastalla, who was supported by the emperor, the King of Spain and the Duke of Savoy. The pope, desirous to prevent a war of which Italy was about to become the theatre, sent Cardinal Sacchetti to Turin to act in favour of the Duc de Nevers, and M. accompanied him in this mission. Sacchetti returned to Rome unsuccessful, leaving to M. the title of internuncio, with power to continue the negotiations and to effect a peace. M. first saw Louis XIII. at Lyons in 1630, and had a long conference with Cardinal Richelicu. The highest cardinal entertained the of him, and feeling that opinion France wanted an able and devoted man in Italy, he succeeded in gaining the young diplomatist, who from this time openly showed himself favourable to the interests of France, and went to Paris at his invitation and through whose influence he was made a cardinal (1641). On the death of his patron he succeeded to position and influence his Louis XIII., and when this king died he nominated M. to the council of regency, presided over by the queen mother, Anne of Austria. After some time she made him Prime Minister and invested him with absolute outhouter. The first rease of his The first years of his authority. ministry were signalised by the vicof the French 1970 Spaniards at Rocroy and Sens, which produced the peace of Westphalia. The same year that the latter was accomplished witnessed the commencement of the Civil War of the Fronde, in which the court, directed by M., had to contend with domestic malcontents and foreign enemies. Twice was M. compelled to yield to the storm raised against him and to quit France, but at length, as much by address as by force, he came off the conqueror in the struggle. In 1659 M. concluded the peace of the Pyrences, which put an end to the wars between France and Spain, and time he began to display his talents, wars between France and Spain, more for diplomacy. The generals of his cemented it by a marriage between holiness, Conti and de Bagni, sent him successively to the Duca de Feria, general of the Spainards, and little regretted. A courtier writing to the Marquis de Cœuvres, after-lat the time, says, 'Le roi est, ou

parait, le seul touché de la mort du l cardinal. He had accumulated immense wealth by very doubtful or equivocal means. His fortune is said to have amounted to near eight millions sterling, all acquired in a period of external war or of internal On the approach of commotion. death he felt some scruples of conscience on the subject, which were, however, soon got over. The only productions of M. which have been published are his letters. Of these, thirty-six, written by him whilst negotiating the peace of the Pyrenees, made their appearance in the year 1690, and seventy-seven more on the same subject were published in 1693. The whole were collected and re-

on the Mediterranean, is a suburb, with a coasting and fishing trade. Pop. 24,000.

Mazeppa, Jan (1645-1709), a het-man of the Cossacks. He became a page in the service of John Casimir, King of Poland. A Polish nobleman, having surprised him in an intrigue with his wife, caused him to be stripped naked and bound upon his lawn borse and sent the animal off own horse, and sent the animal off, leaving M. to his fate. The horse carried him to his own distant residence, but M. fled to the Ukraine, joined the Cossacks, and in 1687 was leaved. elected their hetman. He won the confidence of Peter the Great who made him Prince of the Ukraine, but on the curtailment of the freedom of the Cossacks by Russia, M. conceived heidea of throwing off the sovereignty if the czar, and so entered into nego-liations with Charles XII. of Sweden. These and other treasons were rerealed to Peter the Great, who did not redit the informants, but afterwards being convinced of M.'s guilt, caused number of his accomplices to be out to death. M. joined Charles XII. and took part in the battle of Pultowa 9, to Bender,

ry has been m by Byron, and of two Mazères, a tn. of France in the dept. of Ariège, 27 m. S.S.E. of Toulouse. Pop. 3500.

Mazovia, a dist., well covered with pine and birch, in the N. of Russian Poland. During the reign of Sigis-Poland. During the reign of Sigis-mund I. (1506-48) it lost its indepen-dence of 100 years' standing, and was incorporated with the Polish kingdom.

Mazurka (Polish for 'a woman of Mazovia'), a sprightly Polish dance, not unlike a polka. Chopin has composed many beautiful Ms.: they are

written usually in s or t time.

Mazzara del Vallo (ancient Mazara), mazzara del Vallo (ancient Mazara), a city in the prov. of Trapani, Sicily, 13 m. S.E. of Marsala. The chief exports are corn and oil. Pop. 20,000. Mazzarino, a tn. in the prov. of Caltanisetta, Sicily, 15 m. S.E. of Caltanisetta. Pop. 16,000. Mazzini, Giuseppe (1805-72), an Italian patriot and republican, born in Genoa. He studied at the uni-

talian patriot and republican, born in Genoa. He studied at the university of his native town and for them out the control of having been employed by the Liberal party solely as a means for the great end of Liberal propagandism, the journals were suppressed and the writers disbanded. In 1830 M. joined Carborari's secret society, and six Carborari's secret society, and six months later was betrayed and banished from Italy. The organisation of a new Liberal league, 'Young Italy,' was M.'s next work whilst staying at Marseilles. Banishment from Marseilles, in consequence of the extensive operations of the society having been revealed to the authorities campalled M. to hide the authorities, compelled M. to hide for several months. The first fruits of La Giovine Italia was the revolutionary expedition of Savoy, organised by M. at Geneva, but which was defeated by the royal troops. Sentence of death, par contumace, was recorded against M. in the Sardinian courts for his participation in the affair, but he soon recommenced with increased vigour his revolutionary operations.

A new association, entitled 'New Europe,' and based on principles of European rights and enfranchisement was inangurated by the exertions of M. in Switzerland. In 1837 M. quitted Switzerland for England, and finally took up his abode in London. From thence, his labours in the Italian revolutionary cause were incessant. The resolute combatant of partial

union and monarchical leadership at Milan, M. retired to Switzerland on the capitulation of Milan to the Austrians, to reappear in Florence on the rising of Tuscany and finally at Rome, where he was elected triumvir amidst the triumphant re-joicings of the capital of Italy. His triumvir amidst the triumphant rejoicings of the capital of Italy. His tenure of supreme authority was marked by wisdom, moderation, and success. On the surrender of Rome by M.'s advice, he quitted the city and proceeded to Lausanne via Marseille. The conduct of France he bitterly attacked in public letters to De Tocqueville and others. He subsequently returned to London, and at his instigation risings in Milan



GUISEPPE MAZZINI

(1853) and in Piedmont (1857) were attempted. In 1859, while lending the whole weight of his influence to the revolutionary movements going on in Italy, he combated with vigilant foresight the threatened French prodominance, and refused to accord faith to the Liberal programme of Louis Napoleon. The Sicilian expedition of 1860 owed as much to the organisation of M. as to the heroic command of Garibaldi (q.v.). In 1870 he at 🕠

Mcsult Life and Writings (1864-70); Scritti edili ed inedili (18 vols.), propared by is of A. Samh .. ł. A. Marriott, Everyman's Library,

Πis

Mazzuchelli, or Mazzucchelli, Gio-vanni Maria, Count of (1707-65), an Italian man of letters, had charge of the library which Cardinal Quirini had given to Brescia, and was a col-lector of books, medals, and anti-guittes. His ambitions history of quities. His ambitious history of Italian literature entitled Scrittori d'Italia (1753-63) did not advance berond the letter B.

Mead, a fermented liquor made by dissolving honey at the rate of d lbs. to a gallon of water and boiling it with spices. On cooling, I oz. of brewer's yeast per gallon is added, and after standing for about eight hours it is poured into a barrel to ferment. When fermentation ceases, a small quantity of isinglass is added to clear the liquid. After bottling it is stored for six months or more, when it is ready for use. Special licences for its sale are necessary.

Mead, Richard (1673 - 1754), an English physician, was appointed medical adviser to George II. (1727). He held the post of physician at St. Thomas's Hospital, London, from 1703-54. wrote He numerous treatises, and advocated quarantine and disinfection for plague, and inoculation for small-pox.

Meade, George Gordon (1815-72), an American general; West Point graduate. First won distinction in the Mexican War, where he attained rank of captain of engineers. Fought in the Civil War and Market and the in the Civil War as brigadier-general of volunteers. In continuous service with the army of the Potomac, and was at the head of the Fifth Corps when the disagreement between Hooker and Halleck decided Lincoln to place M. in chief command of the Union army in place of Hooker. In July 1863 he defeated the Con-federates under Lee at Gettysburg, though his own casualties were great.

Meadow Saffron, see Colchicum. Meadow Sweet, or Queen-of-the-Meadows (Spirar ulmaria), a tall plant (order Rosacea), with com-pound cymes of fragrant, creamy-white flowers and pinnate leaves. It is common in pastures.

Meadville, a city of Crawford co., Pennsylvania, U.S.A., 33 m. S. of Erle. It manufs, machinery. Pop. (1910) 12,780.

Meaford, a '~ of Ontario, Canada. in Grey. co., c Bay, 20 m.

There is a fin

There is a im factories. Pop. 2500.

Meagher, Thomas Francis (1823-67), an Irish patriot, born at Waterford. He joined the Young Ireland party, and in 1848 was condemned to death for his revolutionary propaganda. The sentence was commuted

to exile, and he escaped (1852) to metic M. is the average value of the America, where, on the outbreak of quantities, the geometric M. is the civil war (1861), he organised the lish brigade for the Federals. He quantities, proved a fearless and gallant soldier. He met his death by drowning in the Missouri.

Meander of Meirre (Colors and 1852) to metic M. is the average value of the guantities, where the product of the product of the manne of a river in Phrygia noted

Meagre, or Maigre (Sciæna aquila), a fish, sometimes 6 ft. long, which is found off the S. coast of Australia and near the Cape of Good Hope. It has a short and a long dorsal fin, and the cleft of the mouth is deep and slanting.

Meal Tub Plot, a fictitious plot hatched by Thomas Dangerfield with the connivance of a Mrs. Cellier (1679), when it was profitable to needy villains to concoct imaginary plots against the king and the established religion, which from the papers found in a meal tub in Mrs. Cellier's house, seems to have been designed to implicate the Presbyterians and the Duke of Monmouth in a pretended plot to establish a commonwealth and overthrow Protestantism. Dangerfield, by turning king's evidence in another trial, secured a pardon, and Mrs. Cellier was acquitted.

Meal-worm, the larva of a common beetle (Tenebrio molitor), frequenting mills, granaries, and bakehouses. is thin and round, about 1 in. long, and tawny in colour, with bright rusty bands. The beetle is 1 in. long, with stout legs and eleven-jointed antennæ

and black and red in colour.

Mealy Bug, a homopterous insect, hich does considerable harm to which plants in greenhouses by sucking the sap and by choking the pores of the leaves. The insects are minute and red in colour, but a covering of white mealy powder disguises them. The males have wings but the females are wingless. The pest is destroyed with difficulty by spraying with indifficulty by spraying with in-secticide; fumigation with tobacco smoke or cyanide of potassium is more effective.

Mean, in philosophy, is applied to a doctrine of Aristotelian ethics. According to Aristotle, virtue consists in finding the M. (το μέσον or μεσότης) between all extremes, because all desire tends to excess, and excess is the danger of life. According to the genuine exposition of it, this doctrine is not merely a counsel of apathy, but that of a middle course between passion and apathy. See Aristotle's Nicomachean Ethics, blss. i.-iii., and Stewart's Notes, 1892; Grant's Aristotle's Ethics (2nd ed.), 1886; and Wallace's Outlines of the Philosophy of Visitalia. Aristotle.

Mean, The, in mathematics, of two or more quantities is an intermediate quantity determined by certain rules.

Meander (Lat. Mæander, Gk. Μαίανδρος), appellative use of the name of a river in Phrygia noted for its winding course.

Mearns, or Newton Mearns, a vil. of Renfrewshire, Scotland, 7 m. S.W. of Clasters, Den (1911) 2011

Glasgow. Pop. (1911) 3201.

Mearns, The, see Kincardineshire.

Measham, a par. and vil. of Derbyshire, England, 4 m. S.W. of Ashbyde-la-Zouch. Red bricks and terracotta are manufactured, and there are coal mines in the vicinity. Pop. (1911) 2000.

Measles, an acute infectious disease, characterised by reddish eruptions on the body and catarrh of the mucous membranes of the airpassages, conjunctiva, etc. It is one of the commonest infectious diseases in England, occurring in scattered cases at all times, and in rapidly-spreading epidemics at frequent intervals. It attacks children for the most part, and is usually disseminated by the congregation of children in school. The rate of mortality is low, but there are certain dangers arising from possible complications which render it desirable to prevent the frequent epidemics. Like small-pox, it is presumably caused by a micro-organism which has not yet been identified. Canon and Pielicke have isolated a minute bacillus appears characteristic of the early stages of the disease, but its occurrence appears to be a result rather rence appears to be a result rather than a cause of the conditions set up by the disease. An attack of true M. (Rubcola or Morbilli) confers immunity from subsequent attacks to the end of life. The early symptoms are so indefinite that contagion often arreads before the disease is recomspreads before the disease is recognised. After from ten to fourteen days incubation, catarrh of the mucous membrane sets in. The eyes become red and watery, there is a watery discharge from the nose, a dry cough, sore throat, thirst, and restlessness, and a high temperature. After three or four days, small dark-red spots appear on the face and neck, and the face becomes swollen. The eruption extends downwards until the whole body is involved. The rash fades body is involved. The rash fades away in the same order as it attacked the body. The red spots become yellowish, and the skin crumbles off in a powder resembling bran. The duration of the cruption from first to last is about a week, and during that time the febrile conditions increase until the temperature is about 104° or 105°. At the height of the The most common Ms. are the arith- 104° or 105°. At the height of the metic and geometric M. The arith- eruption the temperature usually

falls, and convalescence proceeds rapidly. The chief danger from M. arises from possible complications. Inflammation of the air passages may persist and lead to bronchitis and bronchopneumonia. The eyes may remain irritable, a degree of diarrhea may persist, or the general vitality of the patient may be so affected that liability to tubercular affections is increased. After re-covery, the patient should be covery, the patient should be sheltered from cold and unhygienic conditions for a lengthened period, as much of the mischief arising from M. is due to a premature neglect of the precautions proper to a state of convalescence. The actual fever stage in the mild form of the disease requires little treatment other than that associated with febrile conditions generally. Efforts should be made to prevent the spread of the epidemic by isolating proved and suspected cases. Schools are usually shut when an epidemic threatens a neighbourhood. German measles, Rubella, or Roscola is a mild infectious disease characterised by an eruption similar to that of M., but in a milder form. Febrile symptoms are not marked or are absent altogether.

Measure. In mathematics a number is said to measure another number when it is contained an exact whole number of times in that number.

Measures. See Weights and Measures.

Meat, a term formerly applied to food, particularly solid food. It is now restricted, except for a few surviving phrases, to butcher's meat, or the muscular tissues of such animals as bullocks, sheep, pigs, etc. M. as an article of food owes its value to the large amount of available proteins it contains and its appeal to the appetite when well cooked. The supply of M. is now regularised by the adoption of methods of preservation by means of which the supplies of thinly populated countries are made available for the whole world, and for almost any lengt

ning
the preparation and shipment of M.
from the Argentine, New Zealand,
Australia, etc.; and salling, or impregnating with brine. The drying of
M. for preservation for any length of
time is now practically obsolete. M.
extracts arc
from that i

the soluble

M. and condensed to a small compass the pious pilgrims. Respecting the by evaporation in vacuo. The food-value of M. extract depends more upon the stimulating character of the material rather than on any amount of protein it may contain. The pro-

tection of the public against unsound M. is in the hands of the medical officers and inspectors of nuisances attached to the various borough and district councils. The Public Health Act, 1875, and subsequent amendments, provide for the inspection of slaughterhouses and the destruction of M. shown to be unsound.

Meath, a maritime co. in the prov. of Leinster, Ireland, bounded E. by the Irish Sea. The surface is mainly flat, rising towards the W. The chief river is the Boyne, into which flows the Blackwater. Agriculture flourishes, oats being the principal grain crop; cattle and sheep are reared in considerable numbers. There are some woollen manufactures, and linen is woven by handlooms. There are some moved in the cold ruins at Duleck, Bective Abbey, and Clonard, and a castle at Trim, the co. tn. Tara, the supposed site of the old Irish capital, with its palace, referred to by Sir Thomas More, is in the co. The co. returns two members to parliament. Area, 904 sg. m. Pop. (1911) 64,920.

Meaux, a th. in the dept. of Scineet-Marne, France, on the Marne, 26 m. E.N.E. of Paris. It possesses a 12th-century cathedral. Dairy produce and corn are the chief products; sugar, steel, and cotton goods are

duce and corn are the chief products; sugar, steel, and cotton goods are manufactured. Pop. 14,000.

Mecca (Om Al Kora, mother of cities), one of the oldest towns of Arabia, the cap. of the prov. of Hedjaz, and, through being the birthplace of Mohammed, the central and most holy city of all Islam. It is situated 245 m. S. of Medina and about 65 m. E. of Jiddah, the well-known port on the Red Sea, in a narrow, barren valley, surrounded by bare hills and sandy plains, and watered by the brook Wadi-Al-Tarafeyn. The inhabitants of M. make their living chiefly by letting their houses to the pilgrims (see HAD), who flock hither to visit the Beit Ullah (House of God), orchief mosque, containing the Kaûba (q.r.). This mosque, capable of holding about 35,000 persons, is surrounded by ninoteen gates surmounted by seven minarets. A great number of people are attached to the mosque in some kind of ecclesiastical capacity, as katibs, muttis, mueddins, etc. It is protected by three castellated buildings, and is governed by a sheriff. The trade and commerce of M. hardies manufactured there are chaplets for the pious pilgrims. Respecting the history of M., it was known to Ptolemy already as Macoraba, and first belonged to the tribe of the Kosaites, later to the Korelin. Mo-

leave it precipitately (see Hejira) in involve descriptions of most of the 622, returned to it and conquered it engines by which human labour is in 627. Within the course of the abridged or dispensed with. Finally in 627. Within the course of the present century, M. was taken by the Wahabites (1803) but given up again to the Pasha of Eygpt, Mehemed Ali

is made place). Mecca,

made here. Permanent pop. (estimated) 60,000, floating pop. See Snouck-Hurgronje, 100,000.

Mecca, 1888. Mechain, Pierre François André (1744-1805), a French astronomer, was handicapped in his astronomical studies by the poverty of his father, but his pecuniary troubles were re-moved when his patron, Lalande, secured him the position of hydrographer to a government survey of the coast between Nieuport and St. Malo. He worked also at the Paris observanew comets calculated the orbits of another twenty-four. From 1791 M. was engaged in surveying the arc of the meridian between Rodez and Barcelona. Delambre's Système and S. by Brandenburg. Arcal

them in equilibrium or which duce motion in them. Former

study of M. was divided into study of M. was divided into and dynamics (n.v.), but, as explained made, and gypsum and salt are under Dynamics, M. is now resolved into statics and kinetics; the former branch treating of forces in equilibrium, and the latter dealing with forces acting so as to produce motion. Not only does M. deal with the direct monarchies, but in that year they were granted constitutional governaction of forces on bodies, but it also ment. Pop. 639,879. ortum, and the latter dealing with defrects acting so as to produce motion. Not only does M. deal with the direct monarchies, but in that year they were granted constitutional governaction of forces on bodies, but it also studies the nature and action of forces when they act on bodies by the agency of machinery. This gives the origin of the word M., and as a the origin of the word M., and as a matter of fact M. was in its early Mecklenburg-Schwerin) and the principality of Betzeburg (him between stages the science of making machines. cipality of Ratzeburg (typing between A machine in M. means any con-Schwerin and Lubeck. Area 1131 trivance in which a force applied at sq. m. The country is flat and similar one point is made to reone point is made to r

or overcome a resisting another point. All ma reduced down to three primary machines, viz. the lever, inclined plane, and nulley; and three secondary, derived from these, viz. the wheel and sarew, for the products are corn, cattle and sheep, wedge, and servev, for the products are corn, cattle and sheep, wool, tobacco, butter, cheese, fish, or pretices of each of which see the articles dealing with each of them. These six machines are sometimes have machines are sometimes account of the application of these machines and town magistruction of complex machines would these substances occur only in

or overcome a resisting

it may be seen, therefore, that it is of the utmost importance in structural engineering. Further see Dynamics, Kinetics, Statics, Kinematics, Force, Energy.

Mechanicsville, a tn. of Saratoga co., New York, U.S.A., situated 17 m.
N. of Albany. Has paper and pulp mills. Pop. (1910) 6634.

Mecheria, a com. of Algeria, situated about 145 m. S. by E. of Oran, at a height of over 1000 ft. Pop. 20,000.

Mechlin, sec MALINES. Mednin, see Malines.
Medkenen, Mokenen, or Mecheln,
Israel von (d. 1503), an engraver and
goldsmith, is usually identified with
the German painter, Meister Israel,
eighteen of whose works hang in the
Pinakothek of Munich. They are religious in subject, have gold back-

Mecklenburg - Schwerin, a grand duchy of N. Germany, is bounded on the N. by the Baltic, E. by Pomerania, and S. by Brandenburg. Area 5068 sq. m. M. is watered by several rivers, the most important of which the meridian between Rodez and Barcelona. Delambre's Système and S. by Brandenburg. Area Mârique tells how accurately he fulfilled his task, and gives also a sympathetic picture of the man himselt, a victim to despondency and the a victim to despondency and the latter of the stille circumstances.

The principal towns are the Elbe and the Warnow. The surface is generally flat, here and there intersected with hills, and well model. The principal towns are Mechanics, the science which considers the laws involved when bodies Schwerin (the capital), Ludwigslust, are acted on by forces which keep Rostock, Gustrow, and Wismar. Gustrow, and Wismar.
chief industry,
is an important

nd machinery are

opium. The former is a neutral subthe acid is crystalline, possesses a sour taste, and is soluble in water. The crystals are totally decomposed, and vaporised when strongly heated. The salts of the acid are called meconates.

and bronze, are thinner, much finer in design, and less irregular in circumference. All the later coins are sour taste, and is soluble in water, large flat bronze pieces with the leads of Roman emperors. Greek coins were generally struck from the meconates.

Meconopsis, a genus of hardy annuals or perennials (order Papareracee), several of which are grown in gardens for their large and decorative flowers. M. cambrica, with pale vellow blooms is the Welsh ponny.

yellow blooms, is the Welsh poppy.
Medallions (from Fr. medaillon)
are large medals struck for a particular occasion. In architecture,
round or oval panels and tablets,
often decorated with designs or
figures in relief, are called M. in refer-

ence to their shape. Medals. Numismatists have usually given the name of M. to those coins that have been struck or cast for particular purposes or on extra-ordinary occasions, in commemora-tion of victories, treaties, corona-tions, and similar important events, or in honour of remarkable persons, in contradistinction to those which have been issued and generally cir-culated as money. The art of en-graying dies for M. and the stete of particular purposes or on extragraving dies for M., and the sister art of cutting stones in intaglio, such as seals, etc., are both of very ancient origin if reliance can be placed on the frequent allusions to signets in the O.T., e.g. Genesis xxxviii., Tamar O.T., e.g. Genesis xxxviii., Tamar obtains a pledge of Judah by requiring his signet, and again, Exodus xxxix., the stones worn in the saccrdotal breastplate were to be 'like the engravings of a signet, every one with his name.' The extant Greek M. and medallions (i.e. a larger type of M.), though very rare, sufficiently prove that in this art, as in others, the Greeks attained their customary pitch of perfection. Few are of earlier date than the establishment of the imperial power at Rome and when Greece was under Roman dominion. If, however, the term M. be held to be included in 'coins,' of which there are abundant specimens belonging to different periods and divisions of the country, some idea of Greek styles in medal-casting may be readily inferred from their coinage. These coins bear on their obverse sides all manner of representations from heads or figures of divinities, monsters, and heroes, to sacred, natural, or artificial objects, and real or mythical localities, while the reverse sides contain representations of things in some way related to those on the obverse side. The earliest are mainly of silver or electrum, though occasionally of gold; the later and pre-Roman are of gold, silver, electrum,

in design, and less irregular in circumference. All the later coins are large flat bronze pieces with the heads of Roman emperors. Greek coins were generally struck from the designs of great contemporary exponents both of the art of sculpture and of that of painting, though mainly the former. They give an excellent index to the varying phases of sculpture, and in themselves exhibit great judiciousness in the use of relief as indicative of movement or Perhaps the instantaneous action. Perhaps the coins of the time of the painter Praxiteles exhibit the anaglyptic art in its highest development, the sentiment of the beautiful for its own sake being reflected in the shape of every object, e.g. on the decadrachms of Syracuse, and in the greater clabora-tion and delicacy of ornamentation than characterised the coins of the time of the great Phidias. The few extant Egyptian M. are all in the Greek style, and have, since the researches of Champollion's (see Herro-GLYPHICS) great associate, Rosellial, been generally accepted as affording good representations of the different Ptolemaic kings and queens Egypt, though the M. of Cleopatra no means reveal the representation of the handsome and pleasing countenance that tradition Egyptian paintings concur in lead-There are a ing us to imagine. number of both Greek and Egyptian M. to be seen in the British Museum among the collection of coins there. In ancient Rome there was no coinage, and therefore no striking of M. during the first three centuries of the city. On the institution of a coinage system copper money prevailed, and later silver also was used. But wo never heard of M. being struck, though from the flat inartistic and monotonous stamping of the Roman coins it is to be inferred that such M. as may have been executed were far inferior to those of the Greeks. The carliest examples of modern M. and medallions appear to be synchronous with the time of the Renaissance although there is extant a gold M. of David II. of Scotland, which is reputed to have been east in the middle of the 14th century during his captivity in England. But from the 15th century onwards there is no lack of M. of all times and all countries. The period of the zenith of the art was between the middle of the 15th

when it became a mechanical trade. The two great schools of the period The two great schools of the period of its heyday were the Italian and the German, and the former is superior in that the designers show respect for the limitations of the art as set, e.g. by the shape of the M., and nover ignore the fact that clear-cut objects, cleared with periods reference to selected with especial reference to the incident commemorated, are the best adapted to their purpose. There is consequently an absence of the essentially beautiful and elaborate in idealism, and of subjects mythical, fanciful, and allegorical, which, as fanciful, and allegorical, which, as noted above were characteristic of the Greeks; but there is a correspond-ing gain in fidelity of portraiture, relevance of subject-matter, appropriateness of grouping and emphasis of purpose, and there is no trace of that fondness for foreshortening which the Cretan engravers resorted to in order to compress as much into to in order to compress as much into the circle as possible. A gold M. of the Council of Florence, dated 1439, is one of the earliest, but a still earlier one, if authentic, is one attributed to John Huss in 1415. The M. of Vittore Pisano, the reputed restorer of the art, are of great merit. They are large, always cast, and storer of the art, are of great merit. They are large, always cast, and generally inscribed 'Opus Pisan' Pictoris.' The papal M. commence with Paul II. (1464), those of pontiffs who lived prior to that date having been added to the collection by their successors. The German M. begin in 1453, are very numerous, display much originality and strength in treatment but are somewhat hade. treatment, but are somewhat lacking in the life and movement of work ing in the life and movement of work in relief; less obscured with coplousness of detail. Sicilian M. appear as carly as 1501; Spanish, 1503; and Danish, 1516. The carliest Dutch M., of 1566, are notable for their elaborate engravings of views, maps, and plans. The great names in the French medallist's art are those of Dupré and Warin. French M. Durior to the time of Louis XIV (1643prior to the time of Louis XIV. (1643-1715) exhibit no remarkable qualities, but practically the entire reign of that monarch was signalised by the striking of M. of splendid realistic design. The medallic history of design. The medalic history of Napoleon's time is of great extent, but reflects no great credit on the medallists of the period from the fact that they, like the lillérateurs, were infected with the virus of a false classicism, and attempted to revert to models of a very conjectural antiquity. The series of English M is one of the most perfect. jectural antiquity. The series of English M. is one of the most perfect as a series, but the M. are more notable as representations of contemporary events than as works of art. The The first is of 1480, and is executed in the importance than might generally be

(q.v.) or designing book-plates (q.v.), early Italian manner. On one side is a portrait and on the other a Latin a portrait and on the other a Laum inscription, indicating it as of the time of the Turkish siege, and to bear the arms of Kendal. The next is a gold medal of the time of Henry VIII., with the king's por-trait on the obverse and an inscrip-tion on the reverse side. The first coronation M. appears in the reign of Edward VI., and since then the series has been unbroken. In more recent times numerous Μ. were struck from the dies engraved by William Wyon, R.A., the principal engraver at the Royal Mint (c. 1850). Several were executed for benevolent societies established in the different maritime towns of England for the purpose of aiding shipwrecked or drowning individuals, and were pre-



heroism was exerted on behalf of such unfortunates. A particularly fine M. picture (see the figure) was executed by Wyon for the Liverpool Shipwreck and Humane Society. It represents the rescue of a child and mother in the foreground and a drowning woman in the background. As to the group in the front of the design, consisting of a stalwart seaman, evidently one of the ship wrecked party, stripped to the waist saving a mother and her infant, the designer has triumphed in bringing out the beautiful expression of maternal loye in the woman, and of solicitude in the seaman, who, while saving the child first in accord with the obvious wishes of the mother, yet holds the latter firmly with his hand. The whole is a model of grouping and dramatio juxtaposition. The art of engraving M. and coins is of far more practical

sented as rewards where especial

character, has proved of great assistance to the historian and anti-quarian, and hardly less valuable to the collector of articles de vertu. M. often afford information that cannot be obtained by other means, in the inscriptions, legends, and allegories which they contain expressly or by implication, and as already indicated a good series of M. of unimpeachable authenticity is one of the best authorities that can be consulted for the state of the arts of design of any particular period. The striking of M. forms one of the regular functions of the Royal Mint, all M. bestowed by the Royal Society, or the London University, and army and navy M. being prepared in the die department, and even the making of the clasps and bars is now undertaken there.

Medan, a tn. of N. Sumatra, situated about 10 m. from the W. coast on the R. Deti. Pop. 12,000. Mede, a tn. in the prov. of Pavia, Lombardy, Italy, 22 m. W.S.W. of Pavia, Pop. 6500.

Mede, Joseph (1586-1638), an English scholar, took his M.A. degree from Christ's College, Cambridge, in 1610, and was associated with his college as fellow and reader in classics for the rest of his life. His Clavis Apocalyptica is a reasonable exposition of the apocalyptic prophecies.

Medea (ancient Lamida), a tn. of Igeria, situated 40 m. S.W. of Algeria, situated 40 m. S.W. of Algiers. Pop. 15,200 (Europeans 3000).

Medea (Gk. Missea), in Greek mythology, a famous sorceress. She was the daughter of Æëtes, King of Colchis, and the wife of Jason, with whom she fell in love when he came in search of the golden fleece. assisted him in his quest, and together with her brother, Absyrtus, embarked with him in the Arpo, but being pursued by Ættes she murdered her brother and scattered the parts of his body into the sea, thus delaying her father. At length she arrived at Ioleus with Jason, and from there they went to Corinth, where they lived happlly for about ten years, until Creon, King of Thebes betrothed his daughter Glauce to Jason. This led him to desert M., and for his fail hlessness she exacted a assisted him in his quest, and together for his faithlessness she exacted a terrible revenge. She killed both the bride and her father by sending the maiden a poisoned robe and diadem, maiden a poisoned robe and diadem, Assyrians, their tribes united about and murdered her two sons, Mermerus 708 R.C., according to the common and Pheres, in her husband's sight. After this she fled from Corinth in a cocunt, chose Deloces (Kal-Kobad) for their chief, and made Ecotatana for their capital. His son, Phraortes, or grandfather, Helios, to Athens, where she married Ægeus, by whom she Cyaxares (Kal-Kaous), the son of Phraortes, in alliance with Nabopoas the progenitor of the Medes. lassar, King of Babylon overthrew

supposed. The study of such objects, Being forced to leave Athens she rewhen of an historical or national turned with her son to Colchis and turned with her son to Colchis and restored her father to the throne, of which he had been deprived by his own son, Perses. At Corinth she was deemed immortal, and was said to have become the wife of Achilles in the Elysian fields, but elsewhere she was merely regarded as an ancient queen.

Medellin, the chief tn. of the dept. of the same name, Colombia, 50 m. S.E. of Antioquia. It is an episcopal see and the second largest town of the republic. There are rich gold and silver mines in the vicinity. The inhabitants are chiefly engaged in the manuf. of jewellery, porcelain, and pottery. Coffee is grown and exported. Area of dept. 12,137 sq. m.; pop. 275,000. Pop. of tn. 60,000.

Medemblik, a maritime tn. of Holland on the Zuyder Zee, in the prov. of N. Holland, situated 18 m.

N.E. of Alkmaar. Pop. 3500. Medford: 1. A city of Massachusetts, U.S.A., in Middlesex co., situated on the Mystic R. and lakes, 5 m. N.N.W. of Boston. The manufs. include woollen goods, food products, machinery, etc.; there are also brick works and carriage-building works. Tutts College is located here. Pop. (1910) 23,150. 2. A city of Oregon, U.S.A., cap. of Jackson co., 4 m. N.E. of Jacksonville, with sugar refining and brewing industries. Pop. (1910) 8840.

Medgyes (Ger. Mediasch), a tn. of Hungary in Transylvania, situated on the Great Kokel, 25 m. N.N.E. of

Hermannstadt. Pop. 8000. Medhurst, Walter Henry (1796-1857), an English missionary in 1857), an English missionary in China, born in London, was ordained at Malacca in 1819, and after working in Penang and Batavia founded a mission in Shanghai, with which he was associated from 1842-56. He

was associated from 1842-56. He issued a very accurate version of the Bible in High-Wen-II, his version being a revision of the old Chinese text, and published also a Chinese dictionary for the English.

Media, in ancient times, the name of the north-western part of Iran, corresponding to the present provinces of Azerbijan, Ghilan, Mazarderan, Irak-Ajemi, and the E. portion of Kurdistan. The Medians were in language, religion and magners very language, religion, and manners very nearly allied to the Persians. After they had shaken off the yoke of the Assyrians, their tribes united about

the Assyrian empire about 604 B.C., are read at the annual meeting of the and vanquished the brigand hordes of Scythia. He was succeeded by his son, Astyage (Asdehak), who was deposed (560 B.C.) by his posed (560 B.C.) by his Cyrus (Kai-Khûsru), and from this time t

are spoken of as one people. Ecba-tana, the capital of M., became the doctors who went on the punct. summerresidence of the formula of the control of the c

After the death of Medica Great (324 B.C.), the ut since (Alropatene) of M. became a separate present name. kingdom, and existed till the time of

Augustus; the other portion, under the name of Great M., forming a part of the Syrian monarchy. M. was on several occasions separated from A large body of scientific facts has Persia. In 152 B.c. Mithridates I. took Great M. from the Syrians and anthe selection of points, as far as an anthrow any about 36 B.c. it had a king of its named Artavasdes, against Mark Antony made war. Und

during the 14th and 15th centuries, the stronghold of Turkoman tribes. In early times the Medes were a warlike race, and distinguished for their skill with the bow. They were also celebrated for their horsemanship, and it was from them that the Persians adopted this and other

favourite exercises.

Mediation, Act of, was the work of Napoleon, and was drawn up in 1803. The constitution which it elaborated, though in itself an excellent thing, fell with its originator in 1813. There were to be nineteen cantons; the Diet was to meet in turn at the six large towns, and France was to guarantee

the Swiss neutrality. (Ger. Mediatisie-Mediatisation rung) is derived from Lat. mediatus, middle, and was coined to describe the process by which the title of certain German princes has been subordinated to that of other sovereigns instead of being held directly from the emperor. Many minor houses were producted in 1802 minor houses. were mediatised in 1803, and again in 1815, at the congress of Vienna.

Medicago, or Medick, a large genus of herbaceous plants, belonging to the order Leguminose, the most important of which is M. sativa, lucerne or purplemedick, a valuable fodder plant.

Medical Association, British, was founded in 1832, and now has a membership of over 26,000. Its headquarters are in London (429 Strand, W.C.), but there are now as many as thirty-eight branches in the British Isses and correction as president for 1912 intending practitioner has tegister, an Sir James Barr was president for 1912 intending practitioner has to produce and Dr. Dawson Williams edited the one of many specified certificates reofficial organ, namely the British lating to the subjects of general eduhedical Journal. Papers dealing with cation. A period of study of five years every department of medical science duration is then entered upon. In the

-d although it failed to secure ary object—the complete re-of the bill—it did secure

ally it was known as the Pro-

Medical and Surgical Associatut since 1856 it has borne its

Medical Corps, Army, see ARMY. Medical Jurisprudence, or Forensic Medicine, the application of medical science to questions of common law.

concerning the duals and the

Mark Antony made war. Und
Sassanian dynasty, the whole of M. sonal injuries. So important has this was united to Persia. It became, legal aspect of medicine become, that medical jurisprudence is included as a subject of study in the training course of every medical practitioner. Among the subjects dealt with are evidences of age, personal identity, pregnancy, insanity, paternity, etc., as far as they are likely to have any bearing on the responsibility of an individual or his capacity for certain rights; and evidences of rape, abortion, death by poison, drowning, or hanging, possibility of live-birth in trials for infanticide, the identification of bloodstains, etc. See Dr. Guy's Forense Medicine; Dr. A. S. Taylor's Principles and Practice of Medical Jurisprudence, and his Elements of Medical Jurisprudence.

Medical Practitioner, an individual who practises the art of medicine; a qualified medical practitioner is one whose name is inscribed on the medical register of the General medical Medical Council in the United King-dom. The General Medical Council was established by the Medical Act of 1858 to regulate the conditions under which persons entered the medical profession, and a register was insti-tuted to contain the names of quali-fied individuals. The amended Act of 1886 defined the general scope of the qualifying examination, and gave the council some measure of control over the corporate bodies licensed to grant diplomas. The general requirements do not vary to a great extent among the diploma-granting bodies of the thirty-eight branches in the British United Kingdom. Before being en-Isles and thirty-six in the colonies, rolled on the 'Student's Register,' an

elementary biology. Later on, the training becomes more purely professional, and includes anatomy physiology, materia medica, and pharmacy, pathology, therapeutics, forensic medicine, etc., together with medica, and surgery, medicine and including clinical instruction in a recognised hospital. In America the qualifications are not standardised to the same extent, but there is a tendency to insist upon a lengthened period of professional study, followed by state

examination. Medici, the name of an illustrious Florentine family. Cosimo de' Medici (1389-1464), called 'pater patriæ' by his grateful fellow-citizens, was the son of Giovanni (c. 1360-1429), who is justly regarded as the founder of that greatness which afterwards distinguished his posterity. In 1433 Cosimo was obliged to leave his native Florence and to seek refuge in Venice as the result of one of those sudden revolutions which are inseparably associated with the history of the The Italian mediæval republics. following year, however, he was recalled, and until his death directed the fortunes of Florence, saving her from the ravages of war by his prudent alliances and skilful foreign policy, and using his enormous riches for the generous and enlightened patronage of art and literature. He instituted an academy for the study of Platonic philosophy, collected a number of priceless classical and oriental manuscripts, which formed a splendid nucleus to the Laurentian library, gathered about his court some of the foremost painters, sculptors, and scholars of the day, and won golden opinions for his munificence and generous charities. The name Medici adorned none more illustrious than Cosimo, unless it was his grandson, Lorenzo the Magnificent (1449-92). Lorenzo also was the victim of the endless family feuds, and narrowly escaped assassination at the hands of the influential and jealous Pazzi. was, perhaps, even more lavish in his was, perhaps, over more asymptonic and many patronage of learning than his grand-father. The academy which he founded for the study of the antique was largely responsible for the rapid dissemination over Europe of Greek and Latin literature as well as for the pre-eminence of Florence in the field of Renaissance culture. It was he who seized at once on the vital importance of printing, and it was he who pro-· cured, through John Lascaris, two the monas-

ere destined already referred to. This unique colian library

first years of the course the student is lection, together with the equally examined in physics, chemistry, and unique collection of ancient sculptures and vases, etc., was broken up and in part destroyed when the French sacked the city, which was under the rule of Piero (1471-1503), the incompetent son of Lorenzo. The astute politician Giulio (1478-1534), who rose to be Clement VII., was an illegitimate son of Guiliano, Lorenzo's ill-fated brother. A second son of Lorenzo, Giovanni (1475-1521), succeeded to the papal chair as Loo X. Lorenzo II. (1492-1519), grandson of Lorenzo the Magnificent, exhibited all the incontinence and infirmity of will which mark a degenerate race, whilst the viciousness of his character was further emphasised in his natural Alessandro (1510 - 37),governed Florence as duke from 1530. the year of her tragic surrender to the emperor Charles V. Cosimo I. (1519-74), who was created Grand-duke of Tuscany in 1570, and Ferdinand I. (1549-1609), were descended from Lorenzo (1395-1440), a younger brother of the great Cosimo. The male line of the Medici became extinct with Glovan Gastone (1671-1737), the seventh grand-duke. Catharine de' Medici and Marie de' Medici for the alliance of this house with the royalty of France.

Medici, Catherinede', see CATHERINE

DE' MEDICI. Medici, Marie de', scc MARIC DE'

MEDICI. Medicina, a tn. of Emilia, Italy, in the prov. of Bologna, 15 m. S.E. of the tn. of that name. Pop. (com.) 12.000. Medicinal Herbs. In medicinal times few plants were without their supposed medicinal value, but the progress of medicine has limited them to a very small number. With a special state department's aid, considerable attention is devoted to the culture of M. II. in the U.S.A., but in Britain, where in the Eastern counties a century ago their culture was an important industry, they are little grown now, and considerable importations are received from India and other countries. Some plants, such as foxglove, hemlock, bella-donna, peppermint, valerian, and henbane, can be grown in Britain Foxglove and better than elsewhere. Foxglove and hemlock need to have their juice expressed immediately after cutting.

Medicine, the science of the treatment of disease; any substance administered with the object of curing a diseased condition. The term is sometimes to indicate that branch of the healing art which deals with internal administrations as opposed to surgery or operative treatment. In its widest sense, however, M. includes all varieties of curative

treatment, as well as discussion of the causation of disease, and kindred sub-According to modern conceptions, the study of M. involves first of all the study of analomy, or the structure and form of the body, and physiology, or the study of function. Medical practitioners are called upon to deal with diseased conditions. hence pathology becomes part of the general subject. The treatment of diseased conditions is studied under the name of therapeutics, which, as far as it is concerned with drugs, involves a study of pharmacology. Operative treatment, or surgery, has several sub-divisions, of which dentistry is an im-portant example. Several branches of medical practice have been dealt with separately, of which obstetrics, or midwifery, is of overwhelming im-A special aspect of the portance. application of medical knowledge is indicated in the term medical juris-prudence. The development and classification of medical science has procecded by gradual steps from very early times. Among the more primi-tive peoples, medical practice was an adjunct of the sacerdotal function, and relied more upon the influence of the deity than upon any intrinsic efficacy in the methods adopted. Even t Greek nurely

cure. tive methods is associated with the name of the Greek physician Hip-pocrates (c. 460 R.c.), who was an outstanding member of a profession

principles of minute observation symptoms which have grown into method of clinical M. The general theory of the Hippocratic school postulated four humours in the human body. These were blood, phlegm, yellow bile, and black bile, and an improper proportion of the constituents was understood to be the cause of disease. Careful observation was necess body :

humo the available means of cure was combined with assiduous observation of their offects. When the victories of Alexander had disseminated Grecian knowledge throughout the known world, a school of physicians sprang up at Alexandria who founded what has been called the empirical school. That is, they observed effects instead of inquiring after causes, and built up of inquiring after causes, and built up Calgary, with wood-working a body of clinical experience which tories, iron, steel, chemical,

appears to have led to considerable success in practice. Rome produced the school of 'methodics' who assigned all morbid conditions to the too great constriction or too great relaxation of the pores separating the atoms of the body. The general treatment, therefore, involved increasing or decreasing the amount of constriction to the required extent by the use of drugs and by carefully adjusted All the medical knowledge dicting. of the ancients was co-ordinated and the results recorded by Galen, who lived in Rome in the 2nd century A.D. The study of his works was pursued in the monastic establishments of the middle ages, but the search after a universal principle militated against the development of medical knowledge on scientific lines. The revival vay some

which had of Galen. nade by

Linacre and others, and the study of anatomy, botany, and pharmacology proceeded apace. Scientific method, much as it helped forward the branches of knowledge which were ultimately to cause great developments in medical theory, did not. however, have an immediately great effect on medical practice. Success was more likely to attend the efforts of the empirics who constantly sprang up, and overlaid with superstition as their theories were, nevertheless their knowledge of drugs and their skill in manipulation served them and their patients far better than somewhat dangerous dogma. In 1628 William which had already taken a distinct dangerous dogma. In 1628 William Harvey published his discovery of the circulation of the blood, but it was some time before the importance of this phenomenon was adequately

ess now became radual, until the truths of biology

as demonstrated by Darwin led to the development of theories with far-reaching effects. In Germany, Schön-lein commenced a new era by his discovery of a parasite as the cause of the skin disease called favus. Bacteriological research led, in the hands of Pasteur and others, to the conceptions of toxins produced in the blood by bacteria and to the anti-toxin evolved as a result of the intoxication. Scarcely a month now passes without the recording of a new discovery in the causation of important forms of disease, thus opening up a way for subsequent investigators to formulate a cure

Medicine Hat ('the town that was born lucky'—Kipling), a tn. of Alberta, Canada, 180 m. E.S.E. of fac-

Medina, a tn., 32 m. N.E. of Buffalo in Orleans co., New York, U.S.A., with electric power stations and manuf, of furniture and iron goods. In the vicinity are orchards. (1910) 5683.

Medina (Arabic for 'city'), or Medinat Rasul Allah ('city of the apostle of God'), a sacred city of Hojaz, 253 m. N. of Mecca in Western Besides the fort and the town proper, which is fenced with a rampart of massive stone masonry, there are the suburbs, where the peasants mostly dwell. The inhabitants are agriculturists, who profit by the natural fertility of the volcanic soil. Next to Mecca, M. is the most sacred resort of the Mohammedan pilgrims; for its spacious (420 by 340 sq. ft.) and impressive mosque contains the tomb of the prophet. Pop. about 40,000.

Medina del Campo, a tn. of Spain in the prov. of Leon, 26 m S.S.W. of Valladolid. There is a fine old castle. Once an important city of over 50,000 inhabitants, the pop. has dwindled to about 6000.

Medina Sidonia, a tn. in the prov. of Cadiz, Spain, 20 m. S.E. of Cadiz. The town stands on a hill, and contains the old residence of the Dukes of Medina Sidonia. Pop. 11,000.

of Medina Sidonia. Pop. 11,000.

Medina Sidonia. Pop. 11,400.

Medina Sidonia to the order Melassurab belonging to the order Melassurab belonging to the order Melassurab Sidonia.

shrubs belonging to the order Melastomacee, with large leathery leaves borne on winged stems and large panicles or cymes of showy white or pink flowers, followed by ovoid berries.

Mediterranean Sea (ancient Mare Internum), a great inland sea, bounded on the N. by Europe, on the E. by Asia, and on the S. by Africa, and communicating with the Atlantic by the Strait of Gibraltar, with the Black Sea by the Dardanelles, Sea of Marmora, and Bosphorus, and with the Red Sea by the Suez Canal. It has an area of about 1,008,000 sq. m., including its chief sub-flivisions, the Tyrrhenian, Ionian, Adriatic, and Agean scas, and its extreme length

cement works. Important strikes of principal rivers being the Ebro, natural gas have been made in the district. It is one of the greatest flour-milling centres in the world. Pop. 16,000.

Medick, see Medick, se and a western basin, of which the former has an extreme depth of 2187 fathoms and the latter of 2406 fathoms, while the mean depth of the whole area has been estimated at 780 fathoms. The rivers bring but a small supply of water compared with the size of the sea, and owing to this and the great amount of eva-poration in such a latitude, there is a constant inflow from the Atlantic, and the water is salter than in the great oceans. Its temperature. too, at equal depths near the surface is on an average several degrees (Fahreinheit) higher than that of the Atlantic. At depths of less than 100 fathoms, the water varies in temperature according to season and depth, but at great depths there is an almost constant and uniform tem-perature of about 55° F. In some places, under particular conditions, the tide rises as much as 5 ft., but taking the sea all over it may be said to be nearly tideless. The climate is warm and equable, the mean daily temperature being above 50° F. for at least eight months in the year, but the M. peninsulas have a marked deficiency of rain, the middle of summer being remarkable for its drought. Among local winds may be mentioned the sirocco, a violent and dry, but hot, parching, and dust-laden southerly wind, prevalent chiefly in Malta and Sicily, but occasionally as far N. as Rome; the leveche, a similar wind experienced on the S.E. of Spain; the solano, a moist E. wind visiting the same regions; the mistral and bara, cold, dry northerly winds, the former of which prevails from the mouth of the Ebro

eastern parts of the sea, chiefly in late summer and autumn. The prin-cipal islands are Sicily, which divides the M. into an E. and W. portion, Cyprus, Crete, Malta, and the Ionian islands in the E., and Sardinia, Corsica, and the Balcarle Islands in the W. The most important guifs are Taranto in Italy, Lepanto in Greece, Syrtis and Cabes in Barbary, in the E. portion; and Valencia in Spain. Lyons in France, Genoa in Italy, and Tunis in Africa, in the W. The M. is frequently subject to carthquake, and Vesuvius, Stromboll, and Elma are among the most famous of its active volcances. The scourcy of its sective volcances. is 2300 m., with a breadth varying are among the most famous of its from 86 to 600 m. It has a drainage active volcances. The scenery of its area of about 3,000,000 sq. m., the shores is varied, mountain ranges

and high table-lands predominating. The fauna of the M. is similar in character to that of the neighbouring character to that of the neighbouring parts of the Atlantic Ocean, but a marked feature is the scarcity of life in the deeper parts. Fish are abunddant, especially tunny, anchovies, pilchards, and mackerel, and the finest coral, sponge, and ambergris are procured. Since the opening of the Suez Canal, the pearl cyster and various other melluses have come in various other molluses have come in from the Red Sea. The M. is 'the Great Sea of the Hebrews,' but the Phoenicians were the first great agents in promoting the communion of peoples, and their flag waved in every part of the waters of the 'In-ternal Sea.' After them came the ternal Sea.' After them came the Greeks, who did much for trade, and even when Carthage had been destroyed and the Romans were all powerful, they still possessed the largest share of the commerce of the M., for the Romans despised all trade. In the middle ages the Venctians monopolised its commerce, and at present Great Britain has the main influence by the possession of Gibreltar and Malta. influence by the Gibraltar and Malta.

Medjidie, the name of an Ottoman order, instituted in 1852 by the Sultan Abd-ul-Medjid, as a recognition of both civil and military distinction.

ti is a silver sun with the croscent and star interspersed between its rays.

Medlar, the fruit of the M. tree (Mespilus germanica). It is about an inch in diameter and hard fleshed when fit to gather, but after storing for a few weeks, the flesh softens or bletts. The flavour is peculiar, but is and minister of public education. He relished by many. The tree is much branched and of dwarf habit, and is Holland, King of the Romans (1783-usually planted for its large white 97), and of the North and North-East flowers and generally decorative of Europe (1804-6), etc. appearance.

Medmenham, a vil. c shire, England, famou which was founded

which was founded
monks in the beginning of the 13th
century. Lord le Despencer founded
a mock order of Franciscans here in
1755, commonly known as the 'Hell
Fire Club.' The village is prettily
situated near the banks of the
Thames. Pop. (1911) 500.
Médoc, a dist. of France, bounded
on one side by the Gironde: famous

on one side by the Gironde; famous for its claret.

Medomsley, a tn. in the co. of Durham, England, situated about 1 m. E.S.E. of Ebchester. It is engaged in coal mining. Pop. (1911) 5300. Medulla Oblongata, see BRAIN.

Medullary Rays, a term used in vegetable physiology, referring to radiating cellular bands which connect the pith with the cortex.

Medusa, see Gorgons. Medusæ, sce Jelly-fish. Medway, a riv. of England. Its source is in Sussex, and it flows through Kent to Rochester, from which town it forms an estuary, joining the R. Thames at Sheerness. The other towns on its banks are Tonbridge, Maidstone (to which town it is navigable), and Chatham.

Meeanee, see MIANI.

Meer, Jan yan der, the name of two

Meer, Jan van der, the name of two Dutch painters of Haarlem, who were father (1628-91) and son (1656-1705). Both painted landscapes with cattle. The father excelled also in sea pieces and battle scenes, whilst the son, who had studied under Nicolas Berchem, and who was besides a charming etcher, was famous, above all, for his studies of sheep.

Meerane, a in the kingdom of Saxony, Germany, situated about 9 m. N. of Zwickau. It manufs, woollen goods and cloths, which it exports.

Pop. 25,406.

Meerkat, or Suricate (Suricata tetradactyla), a mammal, with soft and long grey fur, which is found in Cape of Good Hope, and which belongs to the civet family. A third of its length (14 in.) is occupied by the tail. The M. feeds on succulent bulbs, is sociable, and loves a sun bath. The Madagascar cat and the Cyniciis penicellata are also termed Ms.

Meerman, John (1753-1815), a Dutch historian, studied at Leyden, Leipzig, and Göttingen, where he attended Heyne's lectures, and afterwards travelled very widely in Europe. Under Louis Napoleon he proved an indefatigable director of the fine arts

Meerschaum, a white or yellowish neral, composed of When of magnesia.

vater. Hardness, 2 to Is decomposed in hydrochloric acid with gelatinisation, and gives off water when heated. It occurs in beds and in irregular masses in alluvial deposits at Lamos and Negropont, in Asia Minor, Morocco, and in Spain, where it is used as a building stone. Its chief use is for making pipes and pipe bowls, being admirably adapted by reason of its lightness and porosity. It is first soaked in tallow and in wax and then polished; after long smoking it becomes well coloured.

Meerssen, a com. of Holland in the prov. of Limburg, 4 m. N.E. of Maas-

prov. of Limburg, 4 m. A.E. of Manstricht. Pop. 6140.

Meerut, the cap. of the dist. and div. of Meerut, United Provinces, British India, situated 40 m. N.E. of Delhi. To the N. of the city is a cantonment, and it is the site of a military station. M. was the place at which the Indian Mutiny first broke out in 1857. Pop.

118,000.

Megalichthys, a genus of the extinct ganoid fishes. The M. was about 4 ft. long, had big, smooth scales, was provided with two dorsal fins, and a set of strong conical teeth. Its fossil occurs in carboniferous strata.

Megalonyx, a large extinct edentate whose fossil has been found in the U.S.A., was somewhat smaller than

the Megatherium.

Megalopolis, the most recent but the most important of the cities of Areadia, was founded on the advice of Epamint Leuctra (37

out of the it villages. It Mænalia, ne

senia, on the R. Helisson, which flowed through the city. It became afterwards one of the chief cities of the Achwan league. Philopomen and the historian Polybius were natives of Megalopolis.

Megaphone (from Gk. μέγας, great, and φωτή, sound), an instrument, invented by Edison, for facilitating the conveyance of sound for a distance of some miles. It consists of two large

and tapering funnels.

Megapodidee, see Mound Birds. Megara, the cap. of Megaris, a small dist. in Greece between the Corinthian and Saronic gulfs. In ancient times M. formed one of the four divsions of It was next conquered by Attica. the Dorians, and was for a time subject to Corinth; but it finally asserted its independence, and rapidly became a wealthy and powerful city. the Persian wars, M. was for some time at war with Corinth, and was thus led to form an alliance with Athens, and to receive an Athenian garrison into the city (461); but the oligarchical party having got the upper hand, the Athenians were ex-pelled (441). M. is celebrated in the history of philosophy, as the seat of a philosophical school, usually called the Megarian, which was founded by Euclid, a native of the city.

Megaris, a small mountainous region of Hellas, or Greece Proper, bounded by Attica, Corinth, and tho sea. It formed the north-eastern part of the Isthmus of Corinth. The capital was Megara, famous amongst the ancients for its white shell marble, and for a white kind of clay, of which pottery was made. From Euclid, the philosopher, who was born at Megara, about 400 n.c., the Megarie school

took its name.

Megasea, a name for the Bergenia section of overgreen saxifrages. They have large fleshy leaves, and bloom either in winter or in early spring.

Megasthenes, a Greek writer who lived in the 3rd century B.C. He was sent by Seleucus Nicator as ambas-sador to the Indian King Sandrocottus, and spent some time at his court in Magadha in the valley of the While he held that position Ganges. he compiled a historical and geographical work about India, entitled This book, which Ίνδικά. written in the Attic dialect, is the chief treatise on that subject left us by the ancients, and on it are incorporated the records of both Diodorus and Arrian.

Megatherium (Gk. 'great beast'), a uadruped (18 ft. ie order Edentati, Megalonyx, etc., Megatheriide. Its

which American Pampas deposits. The Decame structure of the lower jaw indicates tites of that it had a prehensile tongue ten and is similar to the giraffe.

similar to the giraffe.

Megerle, Ulrich, see Abraham-a-

SANTA-CLARA.

Meghna, the estuary of the Ganges and the Brahmaputra, and enters the sea by four mouths. Navigation is somewhat impeded by a strong tidal wave.

Megiddo, an old fort, city of Palestine, generally supposed to have been situated in the plain of Esdrelon. It was here in 608 n.c. that Joslah was killed in battle. In Roman times it was known as Legio.

Megrim, see MIGRAINE.

Megrims, a temporary loss of voluntary power and movement in horses.

a with a stiff
t llowing congg ssels in the
brain; the horse falls down and its

pulse is very small. General attention to the animal's condition, the provision of a more comfortable collar and less heavy loads check its recurrence.

Mehadia, a market tn. in the prov. of Croatia-Slavonia, Hungary, 15 m. N. of Orsova. It was on this site that the Roman town of Ad Medlam was built, and the Hercules baths known in Roman times are near here. Pop. 2500.

Mehnllet-el-Kebir (ancient Cynopolis), the cap. of the prov. of Gharblye, Lower Egypt, situated 45 m. S.W. of Damietta. Pop. 48,000.

Mehemet Ali, scc MOHAMMED ALL.

Mohemet Ali, see MOHAMMED ALI. Mehlis, a tn. in the grand duchy of Saxe-Coburg-Gotha, Germany, 20 m. S. of Gotha. Pop. 6632.

Mehomia, or Razlog, a tn. of former European Turkey, situated 55 m. S.E. of Sofia. Pop. 8500.

Méhul, Etienne Henri (1763-1817). a French composer, born at Givet-

In 1779 though poor he took pianoforte lessons under Edelmann at Paris. By a happy chance he met Glück, who initiated him in the art of musical composition. The production of his first opera, Cora, was delayed, but meanwhile he made a sensation with his comic opera, Euphrosine et Coradin, 1790. The Cora met with no success, but M. soon reached the front rank with his Stratonice. His other operas include Adrien, Phrosine et Melidore, L'Irado, and Joseph, and he also composed numerous symphonics.

Mehun, a tn. in the dept. of Cher, France, situated on the Meuse, 9 m. N.W. of Bourges. Manufs. textiles

N.W. of Bourges. Manufs. textiles and porcelain. Pop. 6500. Meibom, Marc, or Meibomius, Mar-cus (c. 1620-1711), a German philo-logist and historian of music, an enthusiastic admirer of the music of the ancients (Lydian modes, etc.). Queen Christina of Sweden was for a time his patroness. He became later professor of history at Amsterdam. His great work is Antique musice auctores septem grace et latine (Aristoxenus, Euclid, Nicomachus,

Province, Prussia, incorporated since 1905 with the tn. of Duisburg, with manufs. of iron and steel goods.

Meiktila, a div., dist., and tn. of Upper Burma, India. The div. consists chiefly of a level plain, and large suss chieff of a teve plain, and large numbers of cattle are reared. The chief products are rice, cotton, millet, and sesamum. The town of M. stands on a lake. Area of div., 10,854 sq. m.; of dist. 2183 sq. m. Pop. of div. 1,000,000; of dist. 250,000; of tn.

Meilhac, Henri (1831-97), a French dramatist, born at Paris. His numer-

and Janot (1881). Comic operas in three acts; also in collaboration with Gille, Manon (1884), a five-act comic opera, to the music of Massenet; and Pepa (1888). His works are all lively vaudevilles in the style of Eugène Labeche. He was elected to the Académie in 1888. Majnold Johann Wilkeler (1707)

Meinhold, Johann Wilhelm (1797-Meinhold, Johann Wilhelm (1797-1851), a German poet, novelist, and divine. Lutheran pastor at Usedom (where he was born), Krunmin, and Rehwinkel in Pomerania, till his retirement (1850). His poems and plays were not very successful, but his novels, The Amber Wilch (traus. by Duff Gordon, 1844) and Sidonia von Reselve of The Clinter Wilch (traus. Borck, or The Cloister Witch (trans. 1893), caused a great sensation.

Meiningen, the cap. of Saxe-Meiningen, Germany, situated on the r. b. of the Werra, 43 m. N.W. of Coburg. Some of the town is old, the Elisa-bethenburg being one of the buildings of interest. Pop. 17,182. Melssen, a tn. of Saxony, Germany, or that h. of the Elba 14 m. W. N.W.

on the l. b. of the Elbe, 14 m. W.N.W. of Dresden, built partly on two heights, the Afraberr and the Schlossberg. The latter is crowned by a berg. The latter is crowned by a 13th century cathedral, and the Albrechtsburg, where 'Dresden' china was manufactured from 1710-1863, after Böttger discovered the art of making porcelain. The royal factory is now in the Triebisch valley. M. was founded about 928 by Henry the Fowler, and till the 13th century was the sect of all factors. the scat of Margraves, becoming merged in the kingdom of Saxony about 1423. Cölln-an-der-Elbe was incorporated with M. in 1901. Furni-ture, pianos, and sewing-machines are manufactured as well as pottery. Pop. about 33,875. See Reinhard, Die Stadt Meissen..., 1829; Jäschke, Meissen und seine Kirchen, 1902; Posse, Die Mark grafen von Meissen,

Meissonier, Jean Louis Ernest (c. 1815-91), a French painter, born at Lyons, was a pupil of J. Potier and L. Cogniet at Paris. His most characteristic work depicts civil and military life of the 17th and 18th centuries, or scenes of 'society' life, painted on small panels, and remarkable for accepting from the control of the c able for exquisite finish and detail. The influence of the Flemish figure-painters is evident in these. M. was elected to the Académie (1861), and was president of the Great National was president of the Great National Exhibition (1883). Among his works may be mentioned 'Les Joueurs d'Échees,' 1836; 'La Rixe,' 1854; 'Culrassiers or 1805,' 1871; 'La Lecture chez Diderot,' 1859; 'A Game of Piquet,' 1845; 'Arrival of the Guests.' The Wallace Collection (Hertford House, London) has good examples of his 'miniatures in oils,' including 'Soldiers Gambling' and 'A Charge of Cavalry.' See works

including 'Soldiers Gambling' and 'A Charge of Cavalry.' See works by Claretie (1881), Mollett (1882), Laurens (1892), Larroumet (1893), Gréard (1897), and Formentin (1901); Alexandre, Hist. de la peinture militaire en France, 1891; Dumas, Mattres modernes, 1884.

Meistersingers (Ger. master singer), the name given to the German pro-

the name given to the German lyric the name given to the German lyric poets of the 14th, 15th, and 16th centurles, who banded themselves into guilds for the revival of the national minstrelsy. Many schools for M. were formed in all parts of Germany, especially the S., perhaps the most famous being that of Nuremberg whilst under Hans Sachs. Each guild was divided into various classes from beginners or schüler, up to meisters or poets who could invent a new the worship of Dionysus in Greece, and melody in addition to fitting new to have been the first to practise the words to old tunes. Meetings were medical art. He was also regarded by held weekly in the town hall or the church, and there were special competitions and festivals at Easter, Whitsuntide, and Christmas. The members of the guild regarded poetry and music too much in the light of The crafts, in which excellence was attained by following certain rules, to produce any very great achievements, but their general effect was good rather than bad. After the 16th century the M. gradually died out.

Mejerda River, see BAGRADAS.
Mekinez, or Mequinez, a tn.
Morocco, situated 35 m. W. by S
Fez, on a mountain slope. It is summer residence of the sultan a

Its chief manufs. are earthenware and leather. Pop. 24,000. Mekla, a tn. of Algeria, situated 85 m. S.W. of Biskra Pop. 9000.

Meklong, a seaport of Siam, on the Gulf of Siam, 44 m. S.W. of Bangkok. Salt is exported. Pop. 10,000.

Mekong (Mekhong or Cambodia) River, the chief river of the Slam Peninsula, Indo-China, about 2800 m. long. Its exact source is unknown, but it rises in Tibet, where it is known as the Lau-tsang-kiang, its head stream probably being the Chiamdo-cher, parallel to the Upper Yangtse-kiang. It flows through the Chinese province of Yun-nan, the Shan country, Laos, and Cambodla, entering the China Sca by numerous mouths in Cochin-China. It forms a boundary between the British Shan states and French Siam, and between and French Indo-China. rapids below Chien-hong a Kratie and other parts. The from the Tonie Sap (Great Bienhoa) joins the main ri

Pnom-penh. Mela, Pomponius, a Roman writer leaving two sons and two daughters on geography, probably contemporary with the Emperor Claudius. M.'s work is entitled De Situ Orbis, It is divided into thre contains a very briof.

contains a very brief the various parts of th

best editions of M. are by Gronovius some historic (Leyden), 1685, frequently reprinted; writings, were by Tzschucke, 1807; and the Bipont. form in 5 vols. 1809. M. has been translated into English, by Arthur Golding, 1585 and 1590; into Italian, by Porcacell, 1557; and into French, by Fradin, 1804. His style is simple.

Melaleuca, a genus of Australasian evergreen shrubs and trees (order Myrtaceie), with numerous economic

the ancients as being the first mortal endowed with prophetic powers.

Melancholia, a form of insanity (q.v.). The patient becomes morbidly introspective and suffers from insane delusions, and becomes suicidal. Re-covery from M. can be more com-plete than from any other form of insanity. Fresh air, good diet, and careful exercise and attention to the bodily functions, are essential features in the treatment.

Melanchthon, Philipp (1497-1560), of Luther's fellow labourer in the Re-`etten, Baden. Schwarzerde.

scholar, John the site of the Mulai Ismael mosque. Reuchlin, who was his relation, had Its chief manufs. are earthenware translated his own Teutonic surname into the Greek formation Capaio, on the supposition of its connection with Rauch (smoke), that the Schwarzerde, a compound, meaning, in English, 'black earth,' received received the more melodious Grecised appellation of Melanchthon, by which alone he is now known. He was educated at Heidelberg. In 1512 he went to Tübingen where he became student and teacher, till on his relative Reuchlin's recommendation he was appointed professor of Greek at Wittenberg (1518), it was here he became acquainted with Luther. In 1521 he published his Loci Communes Rerum Theologicarum, the first great

> the cause Augsberg nsent, conitroduction rim (q.v.)itroversics. April 19.

on several of the Greek ssics, Latin poems, and

form in 5 vols. and in 4 vols. fol. at Wittenberg in 1564, again in 1580, and again in 1601. The mc of his works is .. in his . 1834 -Corpus : . . 60). See also Peucer's edition of his Works (1562-61). M.'s Life has been written by his friend Camerarius written by his friend Camera (q.v.). 1566, and frequently since.

Melampus (Μελάηποις), the legend- Melanesia (Gk. μελας, black, and ary son of Amythaon and brother of νήσος, island, from the colour of the

'n oı

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а

by people of Papuan origin. The term M. embraces all the islands from the Bismarck Archipelago in the N.W. to the Fiji Is, in the S.E., and includes part of New Guinea, Santa Cruz, New Hebrides, D'Entrecasteaux, New Calcdonia, Loyalty and Ad-New Calcdonia, Loyalty and Admiralty Is. The islands are either of volcanic or coral formation, aboundvoteanic or coral formation, abounding in reefs and lagoons, with luxurious vegetation. The inhabitants are treacherous and ferocious, cannibalism is still practised, and they are ethnically affiliated to the Papuans of New Guinea. They are short in stature, with frizzly hair and negroid features, denoting the intractor of a ism is still practised, and they are Derry. Book and show making is succeptinically affiliated to the Papuans staple trade, while on the outskirts of of New Guinea. They are short in the town there are many market-stature, with frizzly hair and negroid features, denoting the intrusion of a cap. of Victoria, Australia, on the P the head of an extended portion. ŝt

ÐŢ nesian language. animism combined with spirit worship. The islands are devoid of the larger carnivora, but rats, opossums, bats, mosquitoes, and reptiles abound. As M. stretches from 145° E. and 1° S. in a S.E. direction to the Tropic of Capricorn at 180° E., the islands vary mosquitoes, and reptiles abound. in their flora and fauna to a very great extent, as also do their manners and customs. The inhabitants of some of the islands are proving amenable to European civilisation, and under good government and treatment are showing many signs of improvement. For further details of the various groups of islands in M., see the separate articles, PAPUA, PACIFIC, etc.

Melanians, a family of fresh-water snails, abounding in most tropical and sub-tropical countries and numbering about a thousand species. The shells are spiral and turreted, and

are mostly of dark colours.

Melanorrhœa, a genus of tall evergreen trees (order Anacardiaceæ). M. usitata is the varnish tree of Burma. The varnish is obtained as a thick, white juice on tapping the tree, which turns black on exposure to the air; it has anthelmintic properties. wood is tough and very valuable.

Melanthacem, a natural order of bulbous, tuberous, or fibrous rooted plants, with white, green, or purple flowers, commonest in temperate

countries. Melba, Madame (née Nellie (Helen) Porter Mitchell), a prima donna creased when he not only took office (soprano), born near Melbourne, under Lord Goderich, but remained Australia (whence her stage name for a short time in the government of was assumed), of Scottish and the Duke of Wellington. In 1828 he

inhabitants of the islands), the name Spanish descent. She was educated given to a large group of islands of West-central Oceanica, between Micronesia (q.v.) in the N., and Poly (b. 1826), marrying Charles Armnesia (q.v.) in the S., inhabited mainly strong (1826). She first appeared in London in 1886, but her real début was at Brussels (1887), as Gilda in Rigoletto, when she took the town by storm. As Lucia and Juliet at Covent Garden, London (1888), and in Paris (1889), she won further fame. She is now (1913) entering upon her twenty-fifth year of public singing at Covent Garden with a reputation steadily increasing.

Melbourne: 1. A tn. and par: of Derbyshire, England, 71 m. S.E. of Derby. Boot and shoe making is the

> water called Port n. from the anchorcond most populous only being exceeded its suburbs occupy a

i. It is prettily situ-Their religion is ated on sloping banks overlooking the bay, with wide streets and well-built houses. It is the see of an Anglican bishop and of a Roman Catholic archbishop. The chief buildings of note are two fine cathedrals, houses of parliament, university, law courts, etc., while the city has numerous parks and open spaces. Among the industries are brewing, tanning, flour-milling, bacon curing, and brick making, while cheese, candles, pottery, cigars, clothing, woollen goods, and leather are manufactured. M. has a large shipping trade, its port, called Port Melbourne, is 2½ m. away, but vessels of considerable size can ascend the Yarra-Yarra to the heart of the city. There are wet and dry docks and safe anchorage for large vessels. The city is thoroughly equipped with city is thoroughly equipped with tramway and train services. It was settled in 1835, and incorporated in 1842. In 1849 it was created an

1842. In 1849 it was created an episcopalsee. Pop. (including suburbs and shipping) 593,237.

Melbourne, William Lamb, second Viscount (1779-1848), an English statesman, born in London. His university education he received first at Cambridge, and at Glasgow. He entered the House of Commons for Leominster in 1805, and joined the Whig opposition, under the leader-ship of C. J. Fox. He accepted the chief secretaryship of Ireland in Mr. Canuing's government, and this partial alienation from the Whigs was inIn 1830 he was Home Secretary in the government of Earl Grey. In 1834, Earl Grey retired, and William IV. sent for M., and appointed him to the priemiership. On the accession of Queen Victoria in 1837, it became the duty of M. to instruct the young sovereign in her various duties, to fit her to perform her part as the constitutional monarch. In 1841, his government was succeeded by that of Sir Robert Peel.

Melbye, Daniel Hermann Anton (1818-75), a Danish marine painter, born at Copenhagen. Originally a Originally a shipwright, then a musician, he finally studied painting under Eckersberg at Düsseldorf. Among his patrons were Christian VI., at Paris, Louis Philippe and Napoleon III., and the Sultan of Turkey (1853). His best pictures include: 'The Eddy-stone Lighthouse,' 1816; 'Sea-fight at Kjoga, 1677,' 1855; and 'Le

1866

Melchites, the name given to Christians in Syria and other parts of the East, who, acknowledging the authority of the pope, and the doctrines of the Church of Rome, adhere to the liturgy and ceremonies of the Eastern Church. They conduct divine service in the vernacular tongue, and receive the Lord's Supperin both kinds. Their priests may be married before ordination, but not their bishops. They are chiefly to be found in Aleppo and Damascus. Their patriarch resides at

Damascus. Melchizedek, a Canaanite priest, King of Salem in the time of Abraham (see Genesis xiv. 18). Called 'Priest of the Most High God ' ('El-'Elijon'). Abraham acknowledged his priest-hood by his offerings. The identity of Salem with Jerusalem has salem with Jerusalem has been generally admitted. A sect of Gnostics asserted M. to be an earlier incarnation of the Second Person of the Trinity, superior to Jesus Christ. The parallel drawn in Heb. vii. between Jesus and M. has caused the view to appear frequently amon that M. was an incarnati

Melcombe Regis, scc

Meldola, a tn. in the prov. of Forli, Italy, 7 m. S. of the town of Forli. Pop. 4000.

Meleager, son of the Calydonian king Cencus, took part in the Argonautic expedition, and was the leader of the heroes, who slew the boar which laid waste the fields of Calydon. He gave the hide to Atalanta, but his mother's brothers, the sons Thestius seized it, whereupon M. slew them. When he was seven days old the Fates declared that he would die as soon as the piece of wood which was burning on the hearth should be an Ode to Nelson, 1830. See studies of

was transferred to the Upper House. | consumed. Althea then extinguished the firebrand, and concealed it in a chest; but now, to revenge the death of her brothers, she threw the wood into the fire, wheroupon M. expired. Althea put an end to her life, and the sisters of M. wept for him until Artemis changed them into guinea-

Meleda, an island in the Adriatic Sea, belonging to the prov. of Dalmatia, Austria. It is 23 m. by 4 m., of volcanic formation, and has been identified as the ancient Melita. Pop.

1500.

Melegnano (formerly Marignano), a tn. in the prov. of Milan, Italy, 10 m. S.E. of Milan. It was the scene of the battle of Marignan in 1515, when the French defeated the Swiss. Silk and linen are manufactured. 7000.

Melencze, a tn. in the comitat of Torontal, Hungary, 50 m. S.W. of Temesvar. Pop. 8500. Melendez Valdés, Juan (1754-1817).

a Spanish poet, born at Ribera del Fresno, was a friend of Jovellanos, and for many years professor of law at Salamanca. He was a sweet pastoral and lyric poet, and was influenced by the ideas of the French philosophical school. He sided with the French invaders of his country, and was exiled (1813). He died at Montpellier. His poems include the eclogue, Batilo, 1780; odes, To the Arts. To the Presence of God; elegies, Parting, and The Likeness. His Poesias appeared in 1785. See Biblioleca de autores españoles, lxiii., and Quintana's Life in vol. xix.; Merimeo's essay in Revue hispanique, i., 1894.

Melfi, a tn. and episcopal see of Potenza prov., Italy, at the foot of Mt. Vulture, 34 m. S. of Foggia. It was founded about 304, becoming the capital of Apulia under Norman dukes (1044). Its Norman cathedral was ruined (1851) by carthquake. Olives, vines, and grain are cultivated Pop. 15,000.

Melford, Long, a par. in the co. of England, situated 3 m. N. of Pop. (1911) 2878.

Loch, a sea-loch of Argyll-shire, Scotland, 11 m. S. of Oban. Meli, Giovanni (c. 1740-1815), a Sicilian poet. He practised medicine, and was professor of chemistry at Palermo University (1787). His canzonette, odes, and epigrams, are mostly in the Sicilian dialect. His pastorals, like Eclophe Pescatorie, are exquisite ad In exquisite virtue of called a Parnasosiciliano contains his 'Poesic, 1874. A complete edition appeared (1814), and a posthumous one with

bardo, Ital. Lit.

Melianthus, or Honey Flower, a genus of evergreen shrubs of the order Sapindacee, with graceful pinnate leaves and clusters or racemes of fragrant flowers which in some species yield great abundance of honey.

Melilla, or Mila (ancient Rusadir), a scaport garrison tn. on the N. coast of Morocco, with a Spanish convict settlement and large cisterns and magazines. The harbour was opened (1902) as a port of commerce. Troubles arose at the mines near (1909), which led to military operations. Pop. (with garrison) about 10,000. See Morocco, Melilli, a tn. in the prov. of Syracuse, Sielly, 14 m. N.W. of Syracuse.

Pop. 6500.

Melilotus, a genus of leguminous plants with trifoliate leaves, and onesided axillary racemes of small yellow or white flowers. M. alba, white melilot, or Bokhara clover, is grown as a fodder crop, but has a bitter taste and rapidly becomes hard and woody.

Méline, Félix Jules (b. 1838), a French statesman and economist, born Formerly Underat Remirement. Secretary of State for the Department of Justice. He became a member of the General Tariff Commission in 1881. In 1883 he was nominated Minister of Agriculture in Ferry's first ministry, which post he held for nearly three years. During his tenure of this office he instituted the order of agricultural merit for agriculturists, 'who while meriting encouragement are not in a situation to aspire to the Cross of the Legion of Honour' (Larousse). Elected deputy of the Vosges in 1885 in Ferry's second ministry. In the crisis of 1888, after the quarrel and duel between M. Floquet, president of the Chamber of Deputies, and General Boulanger, the ensuing elections returned an equality of votes for MM. Meline and Clemenceau, the former having been put forward at the last moment by

Melinite: 1. A yellow clayey material, looking like yellow ochre. It are very highly estemed by his has a sp. gr. of 2 ture, shining in

at Amberg, in I sive used as a

shells. The process of manufacture is toria, and Den Skandinaviska Nordens not public property, but it is in all Historia. Many of his romantic novels probability a derivative of picric acid. have been translated into German.

Meliphagidæ, see Honey-Eater.

Meli by Gallo (1836), Natoli (1883), alcohol with caustic potash, and Sanctis in Natori saggi critici; Lom- forms a crystalline solid soluble in water.

> Melita, the ancient name of Malta (q.v.).

> Melito, a scaport in the prov. of Reggio, S. Italy, 15 m. S.S.E. of the tn. of Reggio. Pop. 5500. Melito (or Meliton), Saint, an eccles.

writer of the 2nd century A.D., the champion of Catholic orthodoxy. He was Bishop of Sardis under Marcus Aurelius, and apparently took part in the paschal, Marcionite, and Montanist controversies. Only fragments of his works are extant, including the 'Eκλογάι. See Eusebius, Hist. Eccles., iv.; Otto, Corpus Δpologetarum ..., ix., 1842-72.

Melitopol, a tn. in the gov. of Taurida, Russia, situated on the N.E. of the Crimea peninsula. Pop. 17,000.

Melittis, or Bastard Palm, a hand-some British perennial of the order Labiate with long ovate leaves and conspicuous flowers, creamy white and blotched or spotted with pink or purple. It occurs rarely in woods in the S.W.

Melksham, a market tn. of Wiltshire, England, on the Avon, 6 m. S. by W. of Chippenham. Manufs. include cordage, cocoa-nut fibre, india-

rubber goods, and wootlens. There are baths near. Pop. (1911) 3102.
Mellan, Claude (c. 1598-1688), a French draughtsman and engraver, a pupil of Gaultier at Paris, of Vonet and Villamena at Rome. He early made engravings from the marbles of the Giustinian collection. His best works include 'St. Peter Nolasque'; 'Rebekah,' after Tintoretto; 'The Sudarium of St. Veronica,' 1649 (portrait of Christ as imprinted on her handkerchief): portrait of Urban VIII. (1631)

Mellifont Abbey, the first Cistercian foundation in Ireland, founded (1142) by St. Malachy (1094-1148), 4 m. N. W. of Drogheda, in Meath co. It sur-rendered to Henry VIII.'s. commis-sioners (1539). Now in ruins, its remeins wer K. F. B.,

Mellin, Swedish novelist and historian, born

> Amongst them may be Flickorna i Askersund; allman; Helena Wrede, ällman; Helena Wrede, wrote Fäderlandels His

Mellite, a hydrated salt of alumina Melissic Acid, a fatty acid which and mellitic acid found in brown coal occurs in bees wax and carnauba deposits. Occurs in octahedrons with wax. It is prepared by heating melissy! octahedral cleavage, or in granular solves in nitric acid; decomposed by boiling water.

Melmoth, William (1666-1743), an English lawyer, and anonymous author of The Great Importance of a Religious Life (1711). He commented on the immoralities of the stage in the

form of letters to Defoc. Melmoth, William (1710-99), an English littérateur and eloquent prose-writer, son of above. He wrote Fitzasborne's Letters (1742), translated Pliny's Letters (1747), and some of Cicero's works (1753-77). His Memoirs of a Late Eminent Advocate, 1796, deal with his father's life. See Nichol's Literary Anecdotes, ii., iii. (1812).

Melnik, or Melenik: 1. A tu. 65 m. N.N.E. from the town of Salonica. Pop. 5000, 2. A tn. of Bohemia, Austria, on the Elbe, 18 m. N. by E. of Prague, noted for wine and apricots. Pop. 5436.

Melo, or Villa de Cerro Largo, a vil. of Uruguay, cap. of Cerro Largo dept.

on the Tacuari, 200 m. N.N.W. of Monte Video. Pop. 6000. Molocactus, a genus of tropical cacti, mostly natives of S. America, with an unbranched globular or conical stem bearing ridges from bottom to top covered with clusters of spines. At the top is a small cylindrical spiny cap. M. communis, the Turk's cap cactus, bears rose-red It requires a high, dry temperature.

Melodeon, a musical wind instrument with a row of reeds. operated by keys.

Melodrama, originally a musical drama, or a drama interspersed with vocal or instrumental music. Now it is generally a non-operatic play of a semi-tragic or serious character, wherein surprises, acts of violence, dancing, music, and comic occurrences are all mixed together, to excite and sustain the attention of this type in the English language of this type in the English language are A Tale of Mystery (1802) and Deaf and Dumb (1801), by Thos Boston, of which it is a suburb. It Holcroft. More n

Menyr Irwing's:

tomb of the wizard, Alichael Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still cance of Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still and a bout 640 by St. Aldam, and descreted by 1075. There is an old sorder peal (fort) at Darniels. Prop. Club). 2. A city of Middlesx Co., Massachusetts, U.S.A., 7 m. N. W. of Middlesx Fells, a state remaining the control of the wizard, Alichael Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still and the control of the wizard, Alichael Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still and about 640 by St. Aldam, and descreted by 1075. There is an old Middlesx Co., Massachusetts, U.S.A., 7 m. N. W. of Middlesx Fells, a state remaining the control of the wizard, Alichael Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still and the control of the wizard, Alichael Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still and the control of the wizard, Alichael Scott, is about 3 m. distant. Old M., 2½ m. E., is the site of a still and the control of the wizard, Alichael Scott, is about 3 m. distant. Melodrama, originally a musical Henry Irving's ; Lyons Mail, and .

Melody, a succession of musical rubber shoes, silver and leather goods, sounds so arranged as to have a pleasing effect on the ear. It differs from harmony in being only the production of one voice or instrument, S.W. of Huddersfield. There are whereas harmony is the result of the cotton, thread, and woollen mills. blending of different voices or sounds.

Molon, the fruit of Cucumis melorder Cucurbitacem), a valuable tropical plant which has been cultivated for many centuries. In Britain It is almost invariably grown in pits

nodules. Hardness 2-2:5; colour, or hot-houses. The colour of the flesh honer-yellow; sp. gr. 1:65. Dis- may be green, scarlet, or white. See may be green, scarlet, or white. See also WATER MELON.

Meloria (ancient Manaria), a small island in the Mediterranean, 4 m. from Leghorn harbour. The Genoese here defeated the Pisans at sea (1284).

Melos, or Milo: 1. A Greek Island in the Ægean, one of the S.W. Cyclades, 70 m. N. of Crete. Mt. Prophet Elias is 2548 ft. high. Minerals abound. Near Kastro or Plaka (cap.), by the ruins and catacombs of ancient M., the Venus of Milo (now in the Louvre) was discovered (1820). Pop. 5400. See Excavations at Phylakopi, by Evans, Hogarth, and others (1904). 2. Atn. of New York, U.S.A., in Yates co., lying between the lakes of Kenka and Seneca. Pop. (1910) 6088.

Melpomene, in Greek mythology. the muse of tragedy. She is generally represented fully draped, with a calm expression, holding a bearded, open-

mouthed mask.

Melrose (Celtic maol ros, barc moor) 1. A tn. of Roxburghshire, Scotland, on the Tweed, at the foot of the triple Eildon Hills, 37 m. S.E. of Edinburgh. The famous Cistercian abbey was founded (c. 1136) by David I., and is celebrated by Scott as 'Kennaqulair.' Partly destroyed by Edward II. (1322), and Richard II. (1385), it was wrecked during Lord Hereford's expedition (1545), and by the Reformers. The Decorated and Perpendicular styles prevail, and its beautiful traceried windows are famous. It contains, inter alia, the tomb of Alexander II., the heart of Robert the Bruce, and the reputed tomb of the wizard, Michael Scott (1175-1234). Abbotsford, the resi-

and Spot Pond, a large Manufs. include boots.

Riding, Yorkshire, England, 5 m. S.W. of Huddersfield. There are cotton, thread, and woollen mills. Pop. (1911) 5159.

Molting, the change of physical state when a solid is converted into a liquid by the application of these 1916.

by the application of heat. change takes place at a definite point in the case of pure substances which and

the action of heat. The presence of tin- noint eter-

ning molecular weights. As an illustration of the fact that the presence of im-purity lowers the melting-point, it may be noted that salt is used to remove ice from pavements. In the case of the determination of mole-cular weights, it is found that the freezing-point of a dilute solution of a given substance is depressed below that of the pure solvent by an amount proportional to its concentration, i.e. the mass of dissolved substance per 100 grammes of the solvent. Freezing mixtures also depend on the fact that the presence of impurity depresses the melting-point. Some solid substances contract in volume when melted, while others expand. can be shown more clearly by considering the reverse operation, solidification; thus a substance which contracts on melting will expand on solidifying. Taking water as an instance we find that when water freezes its volume increases. This explains the bursting of pipes in winter, and also the fact that ice floats in water, since, because of this expan-sion, volume for volume, it is lighter. On the other hand, solid paraffin wax sinks in liquid wax, showing that liquid paraffin wax contracts on solidification.

Increase of pressure : on the melting-point, crease be large. Then press or elevate the melting-point according to the substance. This increase of pressure lowers the meltingpoint of ice. The making of a snow-ball illustrates this point. The snow is pressed together, causing some of the snow to melt, and when the pressure is removed this melted snow into a

bjozed lies of o take in an

iron foundry. In the latter case bodies which expand on cooling are used so that every corner of the mould may be filled.

Melting-point. Each substance be-

gins to which i under

determination of the M. of a sub-determination of the M. of a sub-stance is very important in the methods of organic chemistry, and affords a ready method for the do affords a ready method for the de-tection of the presence of a substance. Many methods are employed to determine the M., the most common of was discovered by King.

do not decompose chemically under all being to draw a glass tube out the action of heat. The presence of to a very fine tube and seal one end. Very small pieces of the substance are introduced into the tube which is then tied to the bulb of a mercury thermometer. Both are immersed in a bath of water or some other liquid, which is heated until the substance melts. The substance may then be allowed to cool and the temperature at which solidification commences can be obtained. The substance is again melted, and the M. read off on the thermometer. Three or four readings may be taken in this manner, the M. being the mean of the readings.

Melton, a par. and vil. of Suffolk, Eugland, on the Deben, 9 m. E.N.E. of Ipswich, with machine works. Pop. (1911) 1600.

Melton, West, a par. and vil. of the

W. Riding, Yorkshire, England, 5 m. N. of Rotherham. Pop. (1911) 3700. Melton Mowbray, a market tn. of Leicestershire, England, on the Eye, near its confluence with the Wreake, 15 m. N.E. of Leicester, noted for pork pies and Stilton cheese. There are iron ore quarries near, and smelting and blasting furnaces. It is also

(1911) 9203.

Meiun (ancient Mclodunum), cap. of Seine-et-Marne dept., France, on the Seine, 28 m. S.E. of Paris. It has mediaval churches, a Renaissance town hall, and a ruined palace. M. was captured by Henry V. of Eng. 120). Manufs. include linens, a resultant parallel in the contract of the cont

noted as a hunting centre.

woollens, pottery, Pop. 14.000.

Melusina, or Melusine, in French folklore, a water fairy, half-woman and half-fish; the daughter of Elinas. King of Albania. She married Count Raymond on the condition that he would never seek her on Saturdays, when she was accustomed to shut herself up alone. When they were married she built him a castle called Lusignan Castle. Raymond broke his promise, and did visit her on a Saturday, so she changed into a ser-pent and escaped from the castle by a window. Since her escape she was supposed to have visited the castle, uttering cries a little time before the death of the lords of Lusignan. Hence the expression 'Cris de Hence

which is still heard in some in France. Jean d'Arras legend the subject of one

Melville: 1. An island off the coast of North Australia, separated by Clarence Strait from the mainland. It is 70 m. long and 30 m. broad, and was discovered by King. 2. The

largest of the Parry Is. in the N.; largest of the Parry 1s, in the N. Polar Sea, Arctic America, separated (W.) by Fitzwilliam Strait from Prince Patrick Is., by McIville Sound (S. and S.E.) from Victoria Land and Prince of Wales' Land. It was discovered and named by Parry (1819-20). Length 200 m., breadth 130 m. in N. Canada, peninsula 5. A peninsula in N. Cauada, bounded W. by Boothia Gulf, N. by Fury and Hecla Strait (separating it from Baffin Laud), E. by Fox Channel. Length 250 m., average breadth 100 m. 4. A sound, 250 m. long by 200 m. broad, communicating with the Arctio Ocean and Baffin Bay, S.E. of Melville Is. Melville (Melvill. or Melvine).

Melville (Melvill, or Melvine), Andrew (1545-1622), a Scottish scholar and reformer, ranking next to Kuox as a national benefactor, born at Baldovic, Forfarshire. After leaving St. Andrews with a high reputation for learning, he set out for the Continent (1564), becoming regent of St. Marcoon College at Poitiers (1566). Leaving for Geneva owing to political troubles (1568), through Beza's influence he was appointed professor of humanity at Geneva Academy (1568-74). On returning to Scotland, he became principal of Glusgow University (1574-80), and rendered the highest to Knox as a national benefactor, (1574-80), and rendered the highest services to Scottish education. was principal of St. Mary's College, St. Andrews (1580-1607). A staunch and fearless champion of Presbyterianism, he was one of the fore-most in bringing about the fall of episcopacy in Scotland, and helped to draft the Second Book of Discipline 1581). His extreme and outspoken views frequently brought him spoken views irequently brought him into disfavour. He was forced to flee to England (1584-85), but then returned and was made rector of St. Andrews (1590-97). Summoned with other ministers to London (1606) to confer with James I., he was imprisoned in the Tower till 1611. James refused his petition to return to Scotland, and he accepted the chair of biblical theology at Sedan. Chair of biblical theology at Sedan. See Lives by M'Crie (1819), Morison (1899); Lang, History of Scotland, 1902; Gardiner, History of England, 1603-16, i. 9.

Melville, G. J. Whyte-, sec WHYTE-

MELVILLE, G. J.
Melvillo, Henry Dundas, first Viscount, see DUNDAS, HENRY.

MELVILLE, G. J.
Melvillo, Henry Dundas, first Viscount, see DUNDAS, HENRY.
Melvillo, Herman (1819-91), an American novelist, born in New York, and served as a sailor for several years. His adventurous lie provided him with the material for Typee (1846), an account of his residence in the Marquesas, and Omoo (1847), which dealt with Occania. The lock of his subscuent books were to make the design of the subscuent books were to make the subscuent books were (1847), which dealt with Oceania. The flax are exported. There are iron best of his subsequent books were: foundries, shipbuilding yards, and

Mardi, 1818; While Jacket, 1850; and Moby Dick, 1852.

Melville, James (1556-1614). Scottish reformer, born near Montrose: he was a nephew of Andrew, whose fortunes he shared to a large extent, becoming under him tutor in Glasgow University (c. 1575), and professor of Oriental languages at St. Andrews (1580). From 1586 he took an active part in church controversy, and was moderator of the General Assembly (1589). Summoned to London with his uncle (1606) on the latter's imprisonment, he was forbidden to return N. beyond New castle-on-Tyne. His Diary, 1556-

castle-on-Tyne. His Diary, 15561601, was printed by the Bannatyne
Club (1829), and by the Wodrow
Society (1842).
Melville (or Melvil), Sir James, of
Halhill, Fifeshire (c. 1535-1615), a
Scottish soldier, historical writer, and
diplomatist. He was page and, later,
why convenient to Morry Opens of diplomatist. He was page and, later, privy councillor to Mary, Queen of Scots, and accomplished various missions for her. His Memoirs of My own Life, first published by G. Scott (1683), were edited by Thompson (Bannatyne Club, 1827-33). See Froude, History of England, vili.; and Chambers, Biographical Dictionary of Empired Sectionary of Empired Section. tionary of Eminent Scotsmen.

Melykut (deep well), a com, and tn. of Bacs-Bodrog prov., Hungary, 17 m. from Maria Theresiopel, Pop.

8000. Melyris, a genus of metallic coloured beetles, with long narrow bodies; natives of the Cape of Good Hope.

matives of the Cape of Good Hope.
Melzi, Francesco, Il Conte (c. 14911568), an Italian amateur painter,
of a noble Milanese family, friend
and pupil of Leonardo da Vinci. The
'Vertumnus and Pomone 'at Berlin
is often ascribed to him. To him is
due the preservation of Leonardo's
writings, which, with other belongings, were bequeathed to him.
Mombrane, in anatomy. Indicates

Membrane, in anatomy, indicates the textures of the animal body which, arranged as lamine, cover organs, line the interiors of cavities. and take part in the formation of the walls of canals and tubes. For niucous membrane see Digestion and EPITHELIUM; for deciduous membranes which enclose the feetus, see See also SEROUS MEM. PLACENTA. BRANE.

breweries, and manufs. of machinery, definitely call of the control of the contro the Niemen (Nyeman). Rising in Minsk government, it flows W. to Grodno and enters the Kurisches Haff by the Russ and Gilge mouths. Near Grodno a canal connects it with the Bober and the Vistula. It is important for trade.

Memline (Memling, or Hemling), Hans (c. 1430-94), a Flemish painter, the place of whose birth is uncertain. He settled down in Bruges, probably about 1478. All that is known of about 1478. All that is known or him is that he had a considerable amount of property, that he was married, and had three children. His works were well known in his own time, for he painted a 'Virgin and Child 'for Sir J. Daine, and his 'Last Judgment' and the shrine (1480) containing the relies of St. Ursula in the museum of the hospital of Bruges were very famous. M.'s orlouring is beautiful, and his figures are very fine; of all the Flemish masters of the 15th century, only the brothers Van Eyek are superior to him. See W. H. J. Weale, Hans

Memini, Lippo, di Filippuccio (d. 1356), an Italian painter, brother-in-law of Smoone di Martino, with whom he often worked. Most of his work was done between 1332-51. The fresco over the door of the convent of the Servi at Siena and a small Madonna in the Berlin Museum are the finest of the works attributed to

'Memmi,' Simone, Simone di Mar-tino, or Simon of Sienna (c. 1283-1344), an Italian painter, pupi of Duccio. He was a friend of Petrarch, and painted portraits of Laura and Petrarch, while the poet dedicated two sonnets to him. He shared the 'Gothic' ideals of the Pisani, his influence on the Sienese school of painting being evident for the following two centuries. The frescoes in the church of Santa Maria Novella at Florence are his, The Annunciation, in the Uffizi, and the triptych in Antwerp Gallery. See Vasari, Lives of the Painters.

Memmingen, a tn. of Bavarla, Germany, 33 m. S.S.E. of Ulm. It trades principally in cheese and hops, and manufs. woollen and cotton fab-

manus. women and cotton lab-rics and soap. Iron founding is carried on. Pop. 12,362.

Memnon, in Greek legend, son of Eos (dawn) and Tithonus. He fought for his uncle. Priam of Troy; against the Greeks, but after heroic exploits was slain by Achilles. Also repre-sented as an Oriental hero, he sented as an Oriental hero, he is not most important of

whose honour colossal statues were erected near Thebes. One of these was supposed to give forth musical sounds at dawn when touched by the sun's rays. See Quintus Smyrneus, Posthomerica, ii.; Rawlinson on Herod., iii., 254; Jacobs, Ueber die Gräber des Memnon, 1830; Curzon in Edinburgh Review, 1886; Gardner Wilkinson, Topography of Thebes.

Memoirs, see BIOGRAPHY. Memory. Knowledge depends

upon perception, and lasting know-ledge would be impossible if im-pressions produced by acts of per-ception did not persist after the removal of the object. In this manner. for instance, we may get after per-cepts, as when after looking at the sun we see yellow discs, whether the eyes are open or closed. In addition to these after-images which are occasional and fugitive, distinct and vivid impressions beget mental images, which endure for a very long while. These too gradually die away, and are of little account for knowledge. Picturing or mentally representing an object, implies the mental capability of having permanent images. We thus suppose an ability to recall, revive, or recover a past impression after an interval, and all such re-vival of perceptions is known as imagination. The simplest kind of imagination is known as reproductive imagination, in which the representa-tion follows the order of perception, and M., or the recalling of particular impressions and pieces of knowledge, as opposed to the retention of general truths, falls under this head. truths, falls under this nead. The capability of representing an object or event some time after perception depends upon: (1) The depth of the impression, i.e. the degree of force with which it was stamped on the mind, and (2) upon the force of association, i.e. the presence of something which suggests the object to thing which suggests the object to our minds or reminds us of it. The depth of the impression will ob-viously be greater for actual impression, e.g. a scene visited, than for products of imagination, e.g. a scene described. Further, it also depend-upon the degree of interest aroused in the object with the corresponding degree of attention given, and, again, it will depend upon the frequency of the repetition of the impression. It is well to note here that it is the fre-quency, and not the number of the repetitions, that counts. The repetition must ensue before the effect Also repre- of the first impression is lost. the

methods . 7 viation impressions more easily than others. bu contiau of impressions time. Thus we o ebb of the tide, the flash and the sound of an explosion, and cause and effect. Physiologically, this is explained by the fact that two nerve structures, which have repeatedly acted together, acquire a disposition to so act in combination. The associative force is not in all cases of the same strength, and it depends mainly upon the same two principles which, as we have seen above, control the depth of the impression. In addition to the association by contiguity, there may be association by similarity, contrast, etc., and further, association may be so complex that becoming divergent may tend to confuse, and so become an obstructive association. In states of reverie, we have a series of images floating through our minds without any reference to the corresponding We picture objects experiences. without reflecting where or when we have seen or shall see them, but in all other cases we refer images to some place in the true order of our experience. Thus, if we refer, then, to the past, we are exercising M., and if to the future, expectation. The psychological distinction between M. and expectation involves the fact that M. is a comparatively passive state of mind, while expectation is of tension, effort, or strain. Both states involve the representation of time. the former involving reference to the past, and the latter to the future. Children attain clear ideas about positions of objects in space, before they have any definite ideas about the succession and duration of events. It may be said that 'the higher the sense in point of discriminative refinement, the better the corresponding memory,' so that we recall sights best, then sounds, touches, tastes, and smells in the order given. The power of storing up new impressions reaches its maximum in early youth, probably because the brain later becomes more set, and will not undergo the structural changes necessary for mental acquisition so easily. M. may be improved by exercise and by following certain principles laid down varies greatly among individual Some excel in their power of M. a whole, c.g. Pascal, but generally i in some special direction that The differen difference appears. are either native or due to the the Lombard campaign (1859), being amount of exercise given by various present at Palestro and Solferno. Me persons during the past life. General was Minister of Marine in the Ricasoli ally, however, the difference native, as from the first some

See Association of Ideas, Mnemo. NICS, PSYCHOLOGY, and TRACHING. of Lower Egy standing 12 m to have been historical King of Egypt, and became the first capital of the entire kingdom of Egypt. It grew to great importance under Pepy or Apopi I. (c. 1700 B.C.), who built the pyramid 'Men-nofer' who built the pyramia Acti-noter near by. Among its numerous ancient buildings were temples of Ptah. or Hephestos, of Isis (6th century n.c.), of Serapis, and of Ra. The pyramids and statues of Rameses II. remain, and the ruins of Sakkara close by. The Noph of the O.T. (Is. xix. 13; Jer. ii. 16) is probably M. The city declined rapidly after the Arab con-quest. The modern village of Mit-Rapineh (Mitranieh) in Gize province marks the site. See Smith's Diet. of Greek and Roman Geog.; Poole, Cilies of Egypt; Quibell, Excavations at Saggara, 1908-9. 2. Cap. of Shelby co., Tennessee, U.S.A., on the Mississippi 15 m. from S.Y. Mississippi, 15 m. from S.W. corner of the state. It is a port of entry, and the most important town on the river between St. Louis and New Orleans. It has many fine buildings, and is a great cotton market. Other products are lumber, off, grain, groceries, confectionery, machinery, and shoes. An iron railway bridge (completed 1892),

spans the river. Pop. (1910) 131,105.

Memramcook, a post vil. of Westmorland co., New Brunswick, Canada, 15 m. S.S. E. of Moneton, on Memramcook R. There are saw and grist mills, and oil industries. Pop. 4000.

Mena, Juan de (c. 1411-56), a Spanish poet, born at Cordova, was Latin secretary and historiographer to his patron, Juan II. of Castile. joined the Italianate school of Santillana, and Dante's influence is evident in the ideas though not in the form of his poems. His chief work, dactic d'energy, fir a pearet in 1496. (See Toublast) of the pearet in 1496. Nunez Land, and sanchez 1801), producc V. F. Picknor, History

Menabrea, Luigi Frederico, Marquis in Mnemonics (q.v.). The power of M. de Valdora (1809-96), an Italian varies greatly among individuals, general and statesman, professor of Some eved in their power of M. in. He under

dons for King and fought in

mier (1867-69), Affairs (1869).

dren are capable of retaining certain He was sent as ambassador to

London (1876), and in 1882 replaced, Cialdini at the Paris Embassy, retir-

Menado, a tn. in the island of Celebes, Dutch E. Indies, is a free port, with a large trade to Batavia and China, and one of the most beautiful towns of the Dutch E. Indies. Pop. 9000.

Ménage, Gilles (1613-92), a French scholar and writer, born at Angers. In 1632 he was called to the bar, but he abandoned the law for the church on account of his health, and spent much time in literary pursuits. For some time he lived in the household of Cardinal de Retz, but soon quarralled with his patron, and founded

la Langue Française, L... ctymologique, etc. See Life by Baret, 1859.

Menaggio, a vil. of Lombar Italy, 16 m. N.E. of Como, on W. shore of the Lake of that name. Pop. 1200.

Menai Bridge, a tn. in Anglesea, N. Wales, on Menai Strait, 2 m. S.W. of

Bangor. Pop. (1911) 2000. Menai Strait, a channel separating Anglesea from Carnaryonshire, Wales. Its maximum length is 13 m., and breadth 2 m., and it is famous for the suspension and tubular bridges for the suspension and troutar bridges crossing it. The former, constructed by Telford (1819-25), is 1710 ft. long. The latter, constructed by Robert Stephenson in 1850, is 1380 ft. long, and is known as the Britannia Bridge.

and is known as the Britannia Bridge.
Menaldumadeel, a th. of Friesland
prov., Netherlands, 65 m. N.E. of
Amsterdam. Pop. 10,205.
Menam, a riv. of Siam, rising in
the Sham Mts., near the Burmeso
frontier, and flowing mainly in a
southerly direction for a course of
about 900 m., finally falling into the
Gulf of Siam. It is navigable for Gulf of Siam. It is navigable for small boats to Chieng-Mai, 75 m. above Mutka, and for river steamers to Paknam, but its mouth is ob-structed by sandbanks. Its chief

structed by sandbanks. Its chief tributary is the Taching.

Menander (b. 342 B.C.), the most celebrated Greek poet of the New Comedy, born at Athens. His uncle was the comic poet Alexis; he had was the comic poet Alexis; he had Theophrastus for his teacher, and Epicurus for a friend. Menander was a handsome, light-hearted, and elegant Greek, somewhat luxurious, but not impure in his manners. He was drowned while swimming in the

we possess mere fragments of them. We know something of their character, however, from the imitations of them by Terence. Pleasant and refined wit, clear, sententious reflection, and a vein of real carnestness at times, are the qualities most apparent in them. Consult Meineke's Fragmenta Comicorum Græcorum (Berlin, 1841).

Menander, Arrius, a Roman jurist of the 2nd century A.D., flourished under Severus and his son Caracalla (193-217). The Digest contains six excerpts from M.'s work, Militaria, and Æm. Macer quotes M. See Ulpian, Libri ad

Edictum.

Ménant, Joachim (1820-99),French magistrate and assyriologist, vice-president of the Rouen civil tribunal (1878); born at Cherbourg. His studies on the cunciform inscriptions are renowned, and with Opport he introduced the study of assyriology into France, delivering lectures at the Sorbonne (1869). His works include: Recueil d'alphabets des écri-

1860; Le Syllabaire 'inive el Babylone,

s Assyrian textbooks and grammars.

Menasha, a banking city of Win-bago co., Wisconsin, U.S.A., on nebago co., Wisconsin, U.S.A., on Winnebago Lake, 14 m. N.N.E. of Oshkosh. There is trade in woollens, paper, lumber, blinds, machinery, etc. Pop. (1910) 6081.

Menasseh, Ben Joseph Ben Israel,

see Manasseh ben Israel.

Mencius (Latinised form of Mäng-tsze, or Meng-tseu) (c. 372 - c. 239 B.c.), a Chinese sage, born in Shantung, ranking next to Confucius as a moral teacher, author of one of the 'Four Books,' which constitute the Chinese Scriptures. He was brought up by his mother, who is venerated in China as the pattern of all mothers. When as the pattern of all mothers. When about forty, he travelled with his disciples to the various princely courts then existing in China, preaching and teaching. His dialogues and exhertations concerning practical conduct, both public and private, were published by his disciples as the Book of Meng-tsen. See Julien's Latin trans., 1824-29; Collie (English), 1828; Legge, Chinese Classies, ii, 1862, 1875; Faber's Mind of Mencius, 1882; Giles Hist, of Chinese Lit, 1901 Giles, Hist. of Chinese Lit., 1901.

Mende, cap. of dept. of Lozère, France, 63 m. N.W. of Nîmes. Has

Urban V. Pop. 7319.
Mendel and Mendelism, the biological theory of heredity, first propounded by Gregor Mendel in 1866. but unappreciated or overlooked till harbour of the Pireus. M. wrote the year 1900, when Professor de more than one hundred comedies, vries, of Amsterdam, called attenwhich were in high repute among his tion to it. In 1902, Professor William countrymen, at least after death; but Bateson, of Cambridge, translated

Mendel's monograph into English. Its scientific possibilities were at once realised, and in no country has Mendel's work been carried on with such success as in Great Britain. Mendel was born at Heinzendorf, in Austria, in 1822, of peasant farmers. He took a university degree at Vienna, and after joining the Augustinian order, he moved to the monastery at Brünn, locar Vienna where ultimately he (1866-90). His contributions to near Vienna, where ultimately he became abbot and where he made those observations on which his theories were based. He died in 1884, aged sixty-two, without the satis-faction of the slightest appreciation of his immensely valuable contribu-tion to the science of heredity. Mendel taught natural science in the monastery school, and was evidently well informed in many branches of contemporary biology. In his little garden he spent much time cultivat-ing the cdible and the sweet pea, and kept exact records of various features of about 10,000 plants which he had The possibility grew upon grown. The possibility grew upon him that there must be some natural law of inheritance. He found that where the parents showed a marked difference in special characters, for example, tallness and dwarfness, the hybrid off pring in the first genera-tion was always tall. This prepotency, as Darwin and others had called it, he termed a Dominant characteristic and the other Recessive. In the next generation, produced either by self-fertilisation or by breeding hybrid with hybrid, he found that a form resulted in which the dominant characteristic occurred pure, while there was also one in which the re-reserve the rest was These cessive character was pure. These two occurred approximately as two in four, the other two, though exhibiting the dominant character, having the recessive one latent, as evidently was the case with the first filial generation. That is to say, breeders have only to ascertain which characters, that they wish to preserve, are dominant and which recessive, to be able to fix them permanently. Naturally, the breeding manently. Naturally, the breeding operations are hardly ever so simple, as other characters may assert them-selves and may have to be bred out. But where formerly they were com-pelled to work almost in the dark, Mendel's law gives them at any rate a sense of direction, and there can be no doubt that as research progresses, the value of the law will be such as to rank it among the greatest of Werke (1843-45), Brasch's ed. (1850): scientific discoveries. Already, by its condition of the gradest of the scientific discoveries. Already, by its condition of the scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. Already, by its condition of the scientific discoveries are scientific discoveries. bridge has been able to produce rust-resisting wheat with a yieru above that of wheats in general I.

(1866-90). His contributions to chemical philosophy and physical chemistry were especially valuable. M. discovered and enunciated the Periodic Law of the atomic weights, which was partly discovered by others but brought to its highest perfection by him. (See ATOMIC THEORY). He made a careful study of the chemical properties of petroleum in the mines of Pennsylvania and Caucasia. 1893 he became director of the Bureau of Weights. His chief work is The Principles of Chemistry, 1868-70 (English trans. 1892). See Tilden, 'Mendeleeff Memorial Lecture,' in

Journ. Chem. Soc., 95.
Mendelssohn, Moses (1729-86), a
German philanthropist and eclectic philosopher of Jewish descent, grandfather of the musician, was born at Dessau on the Elbe. He endured great poverty in early life, and was largely self-educated. In 1750 he entered the service of I. Bernhard, a entered the service of I. Bernhard, a wealthy silk merchant, becoming his bookkeeper and finally his partner. In 1754 he was introduced to Lessing, whose intimate friend he became, collaborating with him in Pope ein Metaphysiker (1755). Lessing published M.'s Philosophische Gesprächt anonymously (1755), and made M. the hero of his Nathan. From about 1767 M. turned his attention to the moral and political elevation of his moral and political elevation of his race, becoming the foremost cham-pion of Jewish emancipation in the 18th century. He made a German translation of the Pentateuch and other parts of the Bible (1783), published a German version of Manassch usined a German version of Mathasen ben Israel's Vindiciae judacorum, and wrote Jerusalem (1783, Eng. trans., 1838, 1852), a plea for freedom of conscience and a demand for the total separation of Church and state. total separation of Chutten and State.
Other works were: Ueber die Evidenz
in den Metaphysischen Wissenschaften, 1764; Phädon, 1767 (Eng. trans.
1789); Morgenstunden, in refutation
of Pantheism and Spinozism and defence of Lessing, 1785-86. G. B. Mendelssohn's ed. of G. B. Life by Samuels

1886. Mendelssohn-Bartholdy, Jakob Ludwig Félix (1809-47), born in Ham-burg, grandson of Moses M., the philosopher. His youth was spent in the refined surroundings of a family that enjoyed the advantages of very considerable wealth, culture, and social connection. brilliant benefited by the tuition and advice of Berger, Zelter, Weber, Cherubini, and Moscheles, and by the time he was twenty had already produced his famous octet, three plano quartets. two sonatas, two symphonies, and the Midsummer Night's Dream overture, besides a host of songs, an opera, and many snort pieces. The next few years were passed in visit-ing London, Munich, Vienna, and Rome, and in incidental tours in Scotland, Italy, and Switzerland (1828-31); he met with an eager welcome everywhere, and achieved a wide fame as pianist, composer, and conductor. In 1835, he became con-ductor of the celebrated Leipzig Gewandhaus orchestra, and two married Cécile Jeanyears later married renaud at Frankfort. The same year saw the production of his 42nd Psalm, and the next year his splendid violin concerto was written, and Lobycsang in 1840. He had already conducted several of the Cologne and Düsseldorf festivals, and on his English tour in 1846, he produced his Elijah, still one of the world's favourite oratorios, at Birmingham. M.'s position in musical history is not so unquestioned as it was, but, even if it be conceded that he is often sentimental, shallow, insincere, it must be recognised that he was a highly accomplished artist with lefty ideals, and that he had an im-mense influence on his age. His artist with music, if not always great, is invariably charming, and much adverse criticism is attributable to the fact that his worst works (e.g. songs and piano solos) are best known, whilst his finest efforts (e.g. chamber-music) are neglected. See Lives by E. Wolff (1906) and Moscheles (Eng. trans., 1873), and Letters (2 vols. Eng. trans.), 1862.

Parnassiaus.' He founded La reformation . . is uplift with many-Revue Faulaisiste (about 1859), his handed sway to extirpate the last Roman d'une nuit (for which ho was fluttering tatters of the bugbear fined and imprisoned) appearing in mendicity from the metropolis.

1868; Hensel, Die Familie Mendel it (1861). His poems include; esohn (Eng. trans.), 1881; Ritter, Philometa, 1863; Poésics, 1876, 1885, Mendelssohn und Lessing (2nd cd.), 1892; Hesperus, 1872; La Grive des 1892; Hespérus, 1872; La Grive des vignes, 1895. He wrote plays, novels, and criticisms also, such as: Justice, 1877; Fianmette, 1898; Ariane, (18tiny), 1906; Mephistophela, 1890; La Maison de la Vieille; Wagner, 1886; L'Art au théâtre, 1896-1900; Le mouvement poétique français de

1867 à 1900, 1903.

Mendicancy. With an efficient poor-law system, it is possible that M. would almost die out, if its un-doubteded decrease within comdecrease within com-living memory is any On the other hand, it paratively criterion. seems that there must always be a certain roving substratum of society who, from congenital inertia, inepitude, or physical or moral mis-fortune, seem forced to throw themselves on the charity of others, and who from a not incomprehensible trait common to most natures, prefer to beg rather than to avail themselves of the orthodox channels of public relief. Begging per se is no more illegal than betting; what the law punishes is not so much begging as the habit of M., or begging in a certain way, or in a public place. The net result to a beggar is, however, the same, for it is a trite saying that beggars cannot be choosers, and they can no more choose their vantage ground than they can anything else. In classical times they would seem. by the irony of fate, almost to have formed a legally recognised class of persons enjoying, as it were, a stereo-typed place in the social system. Many Latin writers e.g. record the daily congregations of beggars in the porches of the houses of the wealthy, and give to the modern mind the impression that the larger the number the greater the credit to the particular plutocrat favoured with the attentions of these strange 'clients.' Juvenal, too, in Salires iv. and v., speaks of the crowds of mendicants who, without interference by the law, habitually took their stand on bridges, or frequented the road leading to Aricla or other (1906) and Moscheles (Eng. trans., 1862.

Menden, a fin. of Westphalia, Prussia, 16 m. E.S.E. of Dortmund. The chief manufs. are articles of tin and sheet-brass. Pop. 11,283.

Mendes, Catulle (1841-1909), a French littlerature and poet, born at Bordeaux, was one of the group of Parnassiaus. He founded La Revue Fanlaisiste (about 1880) the road leading to Aricia or other

Scrips, wallets, bags, staves, dogs, and crutches, the whole mendicant fraternity, with all their baggage, are fast posting out of the purieus of this oleventh persecution. Unlike Charles Lamb, in his literary couceit, the law looks with no approval on fluttering and picturesque rags, nor tolerates M. merely because the solicitations of persons are rates uninvited in the levy, unrates uninvited in the levy of th the Vagrancy Act, 1824, the law punishes, as a rogue and vagabond, any one who: (1) Habitually goes about as a collector of alms, or (2) endeavours, by fraudulent pretences, to procure charitable contributions. Obtaining money by sending a lying begging letter is punishable under the Larceny Act, 1861. Standing in public streets in order to beg alms is also punishable under the Vagrancy Act. See also MALINGERING.

Mendicant Orders (Lat. mendico, beg), certain religious associations of friars that sprang up in the Roman Catholic Church in the early 13th century, the Dominicans and Franciscans being some of the most noted. They practised the strictest self-denial and self-humiliation, owned no land or personal wealth, and subsisted mainly upon alms. Particulars about the M. O. will be found in the article on Monasticism and under the various orders. See Cuthbert in The Friars and how they came to England, 1903; Gebhard, Italie mystique, 1899. Cf. Augustinians, Capuchins, Carme-LITES, DOMINICANS, FRANCISCANS,

FRIAR.

Mendip Hills, a range in Somersetshire, England, extending from near Wells and Shepton Mallet towards the Bristol Channel, in the direction of Weston-super-Mare, for a distance of about 18 m. The highest point is Blackdown, 1067 ft. The hills are mainly composed of carboniferous limestone, with eruptive rocks at intervals. Zinc ore is mined.

Mendoza: 1. A province of W. of Argentina, covering an area of 56,502 sq. m. The Andes form its western boundary, and the Cordillera chain covers a good part of the territory. Minerals abound, but only copper and silver are extracted. The chief source of wealth is agriculture, the principal products consisting of the principal products consisting of wheat, maize, wine, tobacco, and vegetables. Pop. 225,246. 2. A city of Argentina and can, of above prov., 632 m. W.N.W. of Buenos Ayres, with an elevation of 2320 ft. In 1861 all its principal buildings were destroyed by an earthquake. Now destroyed by an earthquake. Now sumed his journey and arrived at most of the dwellings are only one Sparta on the very day on which story high. The climate is hot and Orestes was holding the funeral feast over Ægisthus and Clytemnestra. He

wine. In 1910 a tunnel through the Andes was completed, and M. is now the centre of a trans-continental route from Buenos Ayres to Valparaiso. Pop. 43,000.

Mendoza, Daniel (c. 1764-1836), a Jewish prize-fighter and champion of

England (1792), born and died in He twice defeated Hum-London. phries in contests, and was considered one of the most scientific pugilists of his time.

Mendoza, Diego Hurtado, see Hur-

TADO DE MENDOZA, DIEGO.

Mendoza, Inigo Lopez de, see San-TILLANA, INIGO LOPEZ DE MENDOZI, MARQUIS DE.

Mendoza, Pedro Gonzalez de (1428-95), son of Inigo Lopez, surnamed Grand Cardinal of Spain. He attained eminence under Henry IV. of Castile, by whose influence he was made a cardinal; and subsequently exercised equal influence over Isabella, whose right to the succession he espoused. He was successively Bishop of Calahorra and Siguenza (1473), chancellor of Castile and Leon, Archbishop of Seville and Toledo (1481), and was sometimes called the third king of Spain. His influence was exerted in favour of the Jews, and of the projects of Columbus. He took a vigorous part in the prosecution of the wars against the Moors. The college of Saint Croix was founded by him. He died at Guadalajara. Ón his deathbed he named as his successor Cardinal Ximenez. Consult Prescott's History of Ferdinand and Isabella.

Menedemus, a Greek philosopher, of Eretria, which gave the name Eretrian to his school. He was first a tent-maker, then a soldier. He met with Plato and gave up the army. About 277 B.C. we find him in Antigonus in Asia where he starved

himself to death.

Menelaus, in Greek mythology, was the son of Atreus and younger brother of Agamemnon. He was King of Lacedamon and husband of younger He was Helen, of whom Paris robbed him, together with his treasures. He organised an expedition for her recovery, and with Agamennon was one of the heroes of the wooden horse. On his voyage home he was shipwrecked off Cape Malea, and after eight years spent among the people of the East, finally landed at Pharos. Here the god Proteus revenled to him the reason of his de-tention, and prophesied that as husband of the daughter of Zeus he would enter the Elysian plains allve. Having sacrificed to the gods, he resumed his journey and arrived at Sparta on the very day on which

spent the rest of his life quietly with Helen, by whom he was the father of Hermione and Mcgapenthes, the former of whom married Neoptole-mus, son of Achilles. Menelik II. (b. 1842), Emperor of Abyssinia, was the son of Haeli Melicoth, King of Shoa. In 1856 he was obliged to wed Bafana, the daughter of Theodosius, the reign-ing emperor and ten years later, he ing emperor, and ten years later he became King of Shoa. On the assassination of Theodosius (1889), he assusmation of Theodosius (1889), he declared himself emperor. Having inflicted an ignominious defeat on the Italians, he was able to replace the objectionable treaty of Uchali (1889) by the peace of Addis-Abeba (1896), whereby his independence was fully recognised. Under his intelligent discriptor have in in telligent recognised. Under his intelligent direction Abyssinia is rapidly assimilating the benefits of a western civilisation.

Menemen, a tn. of Asia Minor on the Gediz-chai, 14 m. N. by W. of Smyrna. Pop. 10,000, half of which

are Moham.

Menendez Pelayo, Marcelino (b. 1856), a Spanish writer and critic. born at Santander; studied at Madrid, and after a brilliant academic career became professor in 1878. His orthodoxy and ultramontanism are revealed in his popular essays La Ciencia española (1878) and in his Historia de los heterodoxos españoles (1880-86), whilst his Calderon y su teatro (1881) and his Historia de las ideas esteticas en España (1881-91) are true monuments of literary criticism. He has issued the standard edition of Lope de Vega (1890-1903).

Menes (Μήνης), according to the traditions of the Egyptians, was the first king of Egypt. The name, signifying conductor, has been found on inscriptions, but no contemporary monuments of him are known. Herodotus ascribes to him the building of Memphis, and Diodorus says that he introduced the worship of the gods and the practice of sacrifices into Egypt.

Menti, a tn. of Sicily, in the prov. of Girgonti, 32 m. E.S.E. of Marsala. Pop. 11,000.

Mengo, a native cap. of Uganda, Central Africa, on the N. shore of Lake Victoria Nyanza. On Mengo IIII is situated the residence of the king ('Kabaka') of Uganda, and his ministers; also the Par's the Mengo IIII is subject to the

erned, subject to the

Mengs, Anton Rafat. The state of the state o and in 1744 to Dresden, where he was meningitis, inflammation of the appointed court painter. He was membranes of the brain or spinal cord.

spent the rest of his life quietly with, allowed to return to Rome to continue his studies. He soon earned a great reputation by his original com-nositions, among them a Holy positions, among them a 'Holy Family,' the Virgin of which was painted from a beautiful peasant girl whom he afterwards married.

Apollo and the Muses,' in the Villa Albani, Rome, however, made him more celebrated. He did various paintings for Charles III, of Spain. decorating the royal palaces of Spain, and the 'Apotheosis of Trajan,' at

Madrid, is considered his chef d'œuvre.
Mengtsze in the S.E. of Yunnan,
China, opened to trade with Tongking Tin, opium, and tea are Pop. 20,000. en, Hardhead, or Mossin 1886.

exported.

Menhaden. banker (Clupea menhaden), an important fish allied to the shads, common on the Atlantic coast of N. America. It is employed as a bait, but is chiefly valuable for its rich oil and for the manurial value of the residue.

Menhirs are standing stones, found alone or in groups in the United Kingdom and in Brittany. It is conjectured that they were mainly erected for commemorative purposes. The Hawk-stane in St. Hadoes, Perthshire, bears witness to a defeat of the Danes at Luncardy; a collection of 450 stones in Caithness probably marks the place of graves belonging to the bronze age; and many pre-historic monoliths were probably landmarks, boundary lines, or places of meeting for hunters. At Lor-mariaquer, Morbihan, are the four ragments of the largest M. in the world; when erect it stood 67 ft. high. Some M. bear inscriptions or spirals and cup-and-ring markings, etc. M. of Médréac is rectangular; that of Dol (called the 'pierre de champ-Dolent') is cylindrical, and various other shapes occur.

Ménier, Emile Justin (1826-81), a French manufacturer and political economist, born in Paris, gave up the drug factory he had inherited from his father (1864), and proceeded to purchase cocoa plantations in Nicaragua and beet-fields in France, whereby he was able to manufacture chocolate on an immense scale. published several treatises on economics, and served the Republican cause in parliament (1876-81). Anti-tion in the St. Lawrence, s purchased by his son,

as a game preserve.

Tubercular ccrebral meningitis, or acute hydrocephalus, is always associated with a tuberculous history. It usually attacks children under ten years of age, but is occasionally found to affect adults. The early symptoms are very indefinite. There is disturbed appetite and digestion; the patient is restless, but easily latigued. Severe headaches and vomiting mark the more definite stage of the disease, and the patient gradually passes from an excitable state to a depressed condition. Light, which in the first stage is painful, becomes tolerable again. Squinting almost invariably appears in the eyes, and there may be drooping of the eyelid or even blindness. The pulse becomes slow, the patient sinks into a drowsy and almost insensible condition. Towards the end, there may be a recurrence of the more excitable state, and the child may appear to be improving. The disease is almost invariably fatal.

Cerebro-spinal fever, or epidemic cerebro-spinal meningitis is also known as 'spotted fever.' It is an infectious disease, produced by diplococcus intracellularis. and since 1905 considerable mortality Europe and America. Its onset is sudden; the patient has severe headache, and is seized with rigors and Muscular spasms ensue vomiting. there is general hyperæsthesia and feverish conditions. About the fourth day rashes appear of varying form and colour. The death-rate a few years ago was 70 per cent., but the adoption of Flexner's serum treatment has caused a marked diminution, bringing the mortality down to 20 per cent., or even lower.

usion of the bony covere the memin and spinal defect in the

skull or vertebral column, the meninges may protrude, forming a cyst filled with cerebro-spinal fluid.

Menippus, of Gadara, Palestine, flourished in the early 3rd century, n.c. Cynic and satirist, he undoubtedly exerted a paramount influence on many subsequent writers, yet his books have all perished, and his style may only be gleaned from the Menippean Satires of M. Terentius Varro, avowedly his imitator.

Meniscium, a genus of tropical ferns with beautiful venation. They are grown as sub-aquatics in the stovehouse.

Menispermaces, a natural order of elimbing shrubs, occurring in tropical Asia and America. The flowers are borne in racemes and are generally directous.

Menispermum, or Moonseed, a genus

or of deciduous flowering shrubs. M. oci-icanadense has large shield-shaped It leaves and yellow flowers, and does ten well on a damp shady wall.

well on a damp, shady wall.

Mennonites, a Protestant sect, who date their origin from a congregation, including Grebel, Blaurock, and Manz, which formed itself in Zwich in 1525. Recognising the sanctity of human life and of a man's word, they refuse to bear arms or to take oaths. They acknowledge only the authority of the Bible, postpone baptism until after a confession of faith, and dislike all forms of church hierarchies. It will be seen, therefore, that their tenets are such as to suggest comparison in certain respects with the Quakers, Baptists, Socinlans, and Plymouth Brethren. Their principles were adopted and preached by the devout Simons preserve

was he w Anabapt cesses, w carnage and other horrors in Munster (1534), and it was largely due to his

(1534), and it was largely due to his influence that the sect spread to Germany and Holland. For many years the M. were the victims of persecution and intolerance, and their strength was also impaired by internal disruptions; in Switzerland, for instance, the Uplanders, desirous of a

sover, an asylum in Southern Russia, where Catherine II, allowed them to practise their religion undisturbed. Today the sect numbers some 250,000 members, a third of these being in the U.S.A. Dutch refugees founded a M. community at Germantown in Pennsylvania as early as 1683, and since 1871 there have been large M. settlements in Kansas and Minnesota.

Menominie (so called from a now almost extinct Algonquin tribe of Indians), a city of Michigan, U.S.A., the seat of Menominee co., one of the greatest lumber shipping ports in the U.S.A. It is on Green Bay at the mouth of the Menominee R. Pop. (1910) 10,507.

Menominee, The, an Algonquin tribe of Indians who dwell in an assigned territory near Green Bay. Wisconsin. Except in language, they are not unlike the Ojibwa. Their estimated number is about 1400.

Menomonee, a city, cap. of Dunn co., Wisconsin, U.S.A., situated on the Red Cedar R., 60 m. S.E. of St. Paul, Minnesota. Manufs. include carriages, motors, brick, and petrol. The city has excellent railroad facilities. Pop. (1910) 5036.

Menopome (Menopoma alleghani-

ensis), Mud Devil, or Hellbender, quently than once a month; during a voracious four-legged amphibian pregnancy and lactation it stops enfound in some of the rivers of N. America. It is slate-coloured and about 2 ft. long, and the body is short and thick, and the head large, flat and broad, with wide, fleshy lips. The neck has a single gill cleft on either side.

Mensa, one of Lacaille's southern constellations so named by him in 1752 after the Mons Mensæ (Table Mountain) at the Cape of Good Hope. It lies between Dorado and the S. pole, and contains no star of a brighter

magnitude than 5.3.

Menshikov, Alexander Danilovitch (1663 or '72?-1729), a Russian statesman and field-marshal, born at Moscow. He began life by selling meatples in the streets of Moscow, and had Lefort to thank for his introduction to Peter the Great, with whom he had thoroughly ingratiated himself by thoroughly ingratiated himself by 1699. As a soldier he distinguished himself at the slege of Azov (1696), and the battles of Kalisch and Poltava (1790), and again in the occupation of Courland and Pomerania and the spigure of Pais and Statis. the scizure of Riga and Stettin. a civil administrator he executed reforms with remarkable promptitude and success, and on his death (1725) assumed the reins of government during the brief rule of government during the brief rule of various kinds of dysmenorrhoa are Catherine and the minority of Peter described as (a) ovarian; (b) con-II. Ousted from power by the Dolgorukis, he was banished and died an exile in Siberia.

Menshikov, Alexander Sergeievich (1789-1869), a Russian general and admiral, was the great-grandson of Alexander Danilovitch M. He served Alexander Danilovice M. He Served Alexander in the Napoleonic cam-paigns of 1812-15, and in 1828 cap-tured Anapa from the Turks. Created admiral in 1834, he improved very considerably the standard of effi-ciency in the navy. During the Cri-mean War (1854-56) he commanded the Bussian forces at Alma. Inkerthe Russian forces at Alma, Inker-

mann, and round Sebastopol

of 100. urge

days,

ounces, which issues every twenty-eight days from the uterus of a woman, so long as she is enpuble of procreation. M. begins at the age of puberty, which among Teutonic races varies from fourteen to sixteen, and is a sign of the change from childhood to womanhood. The flow ceases between the ages of forty-five and fifty-two, this cularly e. M.

tirely, and its cessation, therefore, is an early indication of conception. The menstrual process is often accompanied by disorders, which are broadly classified as 'amenorrhœa,' 'dysmenorrhœa, 'menorrhæai,' and 'metrorrhagia.' (1) Amenorrhœa im-plies absence or deficiency of cata-This may arise from such menia. a physiological cause as pregnancy; from constitutional causes such as anæmia, emotional disturbance, malaria, and other febrile disorders, such diseases as phthisis, or diseases of the stomach, or nervous system; or from local causes such as the absence, malformation, or disease of the ovaries or uterus, or of both. Surgery will sometimes remove local causes, whilst anæmia and other constitutional causes may often remedied by better nutrition, healthier surroundings, change of air, or mental occupation. (2) In dysmenorrhoea, M. is attended by pain: with some women this is always so, whilst there are others, to whom it brings no appreciable discomfort. The pelvis is the seat of the pain, but it is felt also in the grains thighs and scorner. in the groins, thighs, and sacrum. Other symptoms are head and backache, and general lassitude.

and aperients administered a few days before catamenia is expected, may be recommended in certain cases (3) Menorrhagia is flooding, or excessive flow. Frequent causes are sub-involution of the uterus, fibroid tumour, polypus, cancer, and ulceration of the cervix, etc. (4) Metrorool. uterus, independent of M.; it is occa-tion, a tn. sioned by disease of the uterus, or its rhagia is escape of blood from the

> straight lines are measured by mechanical means, but the measurement of irregular lines forms a part of the integral calculus termed rectification. The areas of plane figures, such as

etc., may be square = (side)3, readth, paral-

lelogram = base x height; trapezium = $\frac{1}{2}h(a+b)$, where a and b are the lengths of the parallel sides, and h the perpendicular distance between them. Various formulæ are true for the triis fre-langle; (1) half the base multiplied by the height, or (2) $\sqrt{s(s-a)(s-b)(s-c)}$, where s = half the sum of the sides a, b, and c. For quadrilaterals, and the various types of polygons, it is usual to divide them up into triangles, find the area of each triangle, and sum up the results. The area of and sum up the results. The area of the circle= πr^2 , where $\pi = 3.141$, and r = radius. The area of a sector of a circle= $\frac{1}{2}r^2\theta$, where θ is the angle subtended by the arc at the centre. That of the ellipse= πab , where α and b are the semi-axes. Various other formulæ for the triangle and polygons are known in terms of trignometrical notation. The areas of the less familiar areas are determined by calculation by means of the integral calculus.

With regard to solids, the volumes and surface areas of the most common are as follows: Volumes .- Prism = arca of base × height. Cone=\(\frac{1}{3} \) area of base × height. Pyramid=\(\frac{1}{3} \) area of base × height. Cylinder = area of base Sphere= $\frac{1}{3}\pi a^3$, where radius of the sphere. Surface areas.
Prism, cone, pyramid, and cylinder=
area of ends+area of sides. The surface area of the sphere $=4\pi a^2$, where a = radius. Various mechanical rules have been formulated for the areas, e.g. Simpson's rule. Pappus' theorem expresses the fact that the volume of a solid of revolution is equal to the area of the generating figure multiplied by the circumference of the circle through which its centre of gravity moves, and the surface area of a solid of revolution is equal to the perimeter of the generating figure multiplied by the distance through which the centre of gravity travels. Amongst the mechanical appliances, the planimeter may be mentioned as an instrument for the measurement of the lengths of irregular lines.

IDIOCY, Deficiency, see

MEHINI DEHCIENCY, see IDIOCY, EDUCATION, TEACHING.
Mentana, a vil. 12 m. N.E. of Rome, Italy, where in 1867 the French and papal forces defeated Garibaldi. Pop. 2000.

Menteith, or Monteith, a loch and dist. of Perthshire, Scotland, in the S.W. of the co. The lake is about 11 m. long, with a breadth of 1 m., and contains three small picturesque islands. The dist, extends from the Teith to the Forth, and formerly was an independent stewartry. The earldom of Menteith is long extinct.

Mentha, a name applied to a genus of labiate plants, otherwise known as the mints; also to the volatile oil contained by the different species. The more important species are The more important species and Mentha viridis, or spearmint, which is used for culinary purposes, and contains an oil used as an aromatic contains an oil used as an aromatic Monganthes, Buckbean or Bogbean, circulant. M. ninerila, or pepperstimulant; M. piperila, or pepper- Menyanthes, Buckbean or Bogbean, mint, used to relieve nausea, flatu- a genus of aquatic plants (order Gen-

lence and pains in the stomach and intestines: and M. sulvestris. horse mint, an uncultivated variety. used for the same purposes as spear-

mint and peppermint. Menthol (C10H1,OH), an alcohol derivative of menthone, one of the constituents of oil of peppermint. It also occurs in a free state in peppermint, and is mainly responsible for the characteristic odour of the plant. M. crystallises in prisms which melt at 143° and boil at 212° C. It is reduced by hydriodic acid to hexa-hydrocymene. The M. of pharmacy is commonly derived from Mentha arrensis purpurescens, a Japanese variety of mint. In this form it usually contains other ingredients, and is made up as a soft crystalline solid resembling camphor. In fact, it is often known as mint camphor. It volatilises readily on being rubbed on the skin, but has a stimulating effect if evaporation is prevented. It is used as an anodyne in neuralgia and in many irritating affections of

the skin. Mentone, a favourite winter and health resort, 143 m. by rail E.N.E. of Nice, on the Mediterranean shore, the dept. of Alpes Maritimes, ance. A rugged headland divides France. its bay into two portions. There are really two settlements, that of the hotels and visitors, which hugs the water's edge, and the native quarters straggling up the mountain side. The mean annual temperature is 61° F. The veretation is almost tropical, and millions of lemons are

grown each year. Pop. 13,000.

Mentor figures in Greek legend, and especially in Homer, as the son of Alcimus, the trusted friend of Odysseus and the wise preceptor of Odysseus son, Telemachus. It was heavilled the processes of Odysseus's son, Telemachus. he who had charge of Odysseus' home in Ithaca whilst the latter was abroad. His name has become synonymous with 'trustworthy counsellor.

Mentz, see MAINZ.

Mentz, see MAINZ.

Mentzelia, a genus of half-hardy
annuals or perennials (order Loasacee)
with large white, yellow, or orange
flowers. Several species are hardy
in sunny borders.

Menuf, a tn. 35 m. N.N.W. of
Cairo, situated in the Nile delta at
the junction of two branches in
Lower Egypt. It is an important
market for agricultural produce.
Page 22.316.

Pop 22,316. Menufia, a 'mudirla' or prov., 607 sq. m. in area, in the Nile delta, Lower Egypt. It stretches from

tianaceæ). with dainty, fringed, white flowers, is a native of Britain.

Menzel, Adolph Friedrich Erdmann Von (1815-1905), a German painter and engraver, born at Breslau. lost both his parents before he was eight, and had later to support his family. Having illustrated Goethe's Kunstlers Erdenwallen and works with pen and ink drawings, he revived the art of wood-engraving, and made a name for himself by his illustrations of the Geschichte Friedrichs des Grossen, and of the actual works of the same Frederick (1843-He owed his mastery of oils 1849). purely to his own endeavours. 'The Forge,' The Ball Supper,' and 'The Market Place at Verona' are three

of his best pictures.

Menzel, Wolfgang (1798-1873), a
German historian and man of letters, born at Waldenburg, Silesia. He studied at Breslau, Jena, and Bonn, and after teaching in a school at Aarau (Switzerland), settled finally in Stuttgart. A keen controver-skallst, he wavered in his political views, but was slways a staunch upholder of the Christian Church. The following selections from his works gives some idea of his mental alertness and versatility: Streckverse (1823), a volume of original and witty poems; Narcissus (1830), a dramatised fairy-tale; histories of Germany (1829), Europe (1853-57), the world (1862-72), and of the German wars of 1866 and 1870; a Literaturally. autobio-Literaturblatt and the

graphical Denkwürdigkeilen (1876).
Menzies, a tn. in the gold-mining dist. of Western Australia, It lies south of Lake Ballard, and is connected by rail with Malcolm, Albany, and Perth. Pop. 2500.

Menziesia, a genus of hardy shrubs (order Ericaceæ), natives of North America and Japan, sometimes grown in rock gardens and moist borders.

The blooms are more or less globose.

Menzini, Benedetto (1646-1704), an
Italian poet, was born at Florence,
and entered the priesthood, becoming professor of cloquence at the
archi-gymnasium of Rome. He enjoyed the patronage of Christina, of Sweden, and was in some measure inspired by Francesco Redi. His original verse, which includes twelve pungent satires (1728), some mediocre odes, and a few dainty anacreontics, is more readable to-day than somewhat antiquated essay in

Ins comewhat antiquated essay in Carners, criticism entitled Art of Poetry.

Mephistopheles is the evil spirit in the Faust legend, by whom Faust is persuaded to sign away his soul. The Greek word (uppostophys, mean-Joint Stock Companies (see under ing 'a hater of light') is pro-Company).

M. trifoliata, a bog plant | bably a transcript of the name of a Chaldean or at least an Eastern god. who belonged to that dualistic system whereby goon and ngm on the one-hand were opposed to evil and dark-ness on the other. M. receives very different treatment at the hands of Marlowe and Goethe in their ver-sions of the Faust legend. Both, however, identify him with Lucifer, whereby good and light on the one however, identify him withe fallen archangel, with thé medieval devil, and also with the humorous kobald of German folklore.

Meppel, a tn. in Drente, Holland 17 m. by rail N. by E. of Zwolle. I Tŕ. communicates with the Zuyder Zee via the Meppeler Diep. Pop. 11,000.

Mappen, a tn. situated at the confluence of the Haase and Ems, 42 m. N.W. of Osnabriick, in Hanover, Prussia. Pop. 5122. Mequinez, see Mekinez. Meran, a tn., and health resort,

neran, a th. and neath resort, pletnresquely situated at the base of the Küchelberg, on the Passer R., 16 m. N.W. of Botzen, in the Austrian Tyrol. Pop. 11,576.

Mercadante, Saverio (1797-1870),

an Italian composer, born at Alta-mura, Italy. He was for some time musical director at Novara Cathedral, and became principal of the conservatoire at Naples (1840). Of his many operas the carlier, such

as 'L'Apoteosi d'Ercole' (1819),
'Elisa e Claudio' (1821), 'I Briganti' (1836), and 'La Vestale' (1842), are the more famous,

Mercantile Law. There is no part of the English law which is specifically called M. L. except in text-books, although the phrase is occasionally to be found in the title of a statute, e.g. the Mercantile Law Amendment Act, 1856 (as to which see LIMITATIONS. STATUTES OF). The reason for this is that English M. L., built up largely upon the customs of merchants, in theory forms merely a part of the common law (q.v.), and that such codification as can be said to exist has been comparatively recent and confined to special topics, e.g. the Bills of Exchange Act, Merchant Shipping Acts, Sale of Goods Act, etc. For the sources of M. L., its rise and development in England, see under LEX MERCATORIA. Other subjects bearing on M. L. are, Agency, Sale of Goods, Partnership (q.v.), Negotiable Instruments (q.v.), and Bill of Exchange, Life Assurance, Fire, Marine, and Accident Insurance (see also INSURANCE). INSURANC Carriers,

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M	ercantile					180	3				Merc	antile
	Total number and net tonnage of vessels, including their repeated voyages, that entered and eleared, with cargoes and in ballast, at ports in the United Kingdom, from and to foreign countries and British possessions, in each of the years 1899, 1910, and 1911. (Vessels are said to be in ballast when they carry (a) only passengers with their luggage, or (b) in the foreign trade, nothing but clalk or state, or (c) in the coasting trade, only material on which no freight is earned, carried for the purpose of making the vessel stable.)			r Cargoes and n Ballast	Tons	1,982,011 1,951,295 1,910,516	64,327,508 64,709,154 67,253,999	66,309,519 66,660,449 69,164,515		1,989,508 1,947,845 1,899,866	64,968,655 65,422,020 67,844,960	66,958,163 67,360,865 69,744,826
	goes an 309, 191 1 trade, rpose of		Total	With (Vessels	7,300 6,707 6,388	33,990 33,890 34,337	71,290 70,597 70,725		6,365	33,497 33,202 33,148	70,395 39,567 39,201
	ed, with car the years 19 the foreign for the pu		To	h Cargoes	Tons	1,479,401 1,427,865 1,420,134	38,836,402 40,190,800 40,526,327	40,315,803 41,618,665 41,946,461		$\begin{bmatrix} 1,630,216\\1,561,472\\1,519,632 \end{bmatrix}$	55,563,789 55,765,476 57,743,632	57,194,005 57,326,948 59,263,314
	d oleare each of or (b) in carried			With	Vessels	5,621 5,199 5,048	10,603 11,143 10,316	16,224 16,342 16,364		5,602 5,236 4,895	55,303 55,185 55,500	30,905 30,421 30,395
	entered an ssessions, in eir luggage, t is earned,			With Cargoes and in Ballast	Tons	1,486,476 1,488,028 1,485,539	25,161,383 25,530,801 26,901,500	26,647,859 27,018,829 28,387,039		1,522,981 1,522,011 1,540,457	25,332,871 25,674,389 27,096,391	26,855,852 27,106,399 28,636,848
Ţ	es, that tish pos with the	Entered	Foreign	With (Vessels	4,987 4,729 4,607	28,182 27,907 28,591	33,169 32,636 33,198	CLEARED	4,995	8,329 8,010 8,681	33,324 32,697 33,257
IN TRADE-I	sated voyag ries and Bri passengers on which n	Enti	For	1 Cargo	Tons	1,120,030 1,080,931 1,082,308	10,840,079 11,416,200 11,408,301	11,960,109 12,497,131 12,490,609	CLE/	1,218,151 1,237,635 1,242,639	19,735,021 19,850,500 20,920,647	20,053,172 33,324 21,088,135 32,697 22,163,286 33,257
FOREIGN	eir repe n count a) only aterial			With	Vessels	3,058 3,697 3,652	16,020 16,330 16,132	19,978 20,027 19,784		4,066 3,862 3,739	24,332 24,487 25,294	28,398 28,340 20,033
H	ncluding the and to foreighthey carry (ade, only m			With Cargoes and in Ballast	Tons	495,535 463,267 424,977	39,166,125 39,178,353 40,352,499	39,661,660 19,978 39,641,620 20,027 40,777,476 19,784		466,527 425,834 359,409	39,635,784 39,747,639 40,748,569	40,102,311 40,173,466 41,107,978
	from a value trainer trainer tr		1SH	With (Vessels	2,313 1,978 1,781	35,808 35,983 36,746	38,121 37,961 37,527		1,903 1,678 1,480	35,168 35,192 34,467	37,071 36,870 35,947
	onnage of val Kingdom val Kingdom be in ballast in the coas		Вягтізн	With Cargoca	Tons	359,371 346,934 337,826	27,996,323 28,774,600 29,118,026	28,355,694 38,121 29,121,534 37,961 29,455,352 37,527		412,065 323,837 277,013	35,828,768 35,914,976 36,822,985	36,238,813 36,238,813 37,100,028
farine.	nd net to he Unite said to or (c).			With	Vessels	1,663 1,502 1,396	24,583 24,813 24,184	26,246 26,315 25,580		1,533 1,374 1,156	30,971 30,698 30,206	32,504 32,072 31,362
Mercantile Marine.	mber and orts in the sels are sels are selve or slate il stable.)					$\left\{ egin{array}{c} 1909 \\ 1910 \\ 1911 \end{array} \right.$	$\{ \begin{array}{c} 1909 \\ 1910 \\ 1911 \end{array} \}$	$\{ \begin{array}{c} 1909 \\ 1910 \\ 1911 \end{array} \}$		$\binom{1909}{1910}$	$\{1909 \\ 1910 \\ 1911$	(1909) (1911)
Merc	Total num at port (Vesse) chalk vessel					Salling	Steam	Total		Salling Vessels	Steam Vessela	Total

FOREIGN TRADE-II, PRINCIPAL COUNTRIES

cantu	ıe				10	1			Me	car	ıtne
nst, at ports), and 1911.		ıgı	Tons	2,954,946 2,526,924 2,008,580	2,187,241 7,931,109 4,078,504 4,335,183 7,233,915	2,103,072 4,787,781 1,726,190 7,312,681	2,981,333 499,037 1,720,470	806,278 1,191,172 507,447	2,501,977	10,350,986	958,147,69
10 001 09, 191			Vessels	3,282 3,528 3,508 202	4,219 8,849 5,737 6,036		1,149 2,349 492	201 101 102 102	¥99	0,451	69,204
cargoes and the years 19	CLEARED	1910	Tons	2,810,266 2,547,933 2,015,686	2,143,992 7,944,568 3,875,551 4,167,065 6,846,614	2,105,473 4,103,159 1,461,311 7,124,017	2,679,380 479,110 1,648,116	748,478 1,067,830 458,161	2,380,304	10,262,801	67,369,865
a, with	3		Vessels	3,033 3,623 3,664	 -	2,101 2,785 703 1,398	1,062 2,322 477	205 281 103	662	6,641	199,69
sessions, in		1909	Tons	2,810,723 2,507,015 1,805,378	2,198,963 8,308,042 3,595,666 4,026,969 7,302,829		2,374,589 455,707 1,768,859	682,547 1,073,037 415,098	2,192,312	9,735,394	66,958,163
tish pos			Vessels	2,974 3,511 3,516	4,258 9,624 5,947 5,887 15,610		973 2,282 521	192 315 99	629	7,038	70,395
yages, phu ries and Bri		1911	Tons	4,055,624 1,915,757 1,939,709	1,536,858 9,614,309 7,588,037 6,816,408 8,137,214	2,88%,230 825,153 373,870 8,113,541	1,709,178 519,059 2,106,375	662,580 1,457,272 361,999	2,826,500	5,719,849	69,164,515
n count			Vessels	4,323 2,843 3,664	3,585 9,028 8,605 7,717 15,909		2,387 664	144 396 82	802	199'7	70,725
ng their rep neipal foreig	ENTERED	0161	Tons	4,081,638 1,938,856 1,886,415	1,487,075 8,964,406 7,655,628 6,432,229 7,062,614		1,972,212 505,156 2,140,046	636,620 1,321,944 414,449	2,774,359	5,427,763	66,660,149
includii the pri	ā		Vessels	4,260 3,030 3,606	3,558 9,019 8,850 7,597 15,236		2,353 688	145 381 96	83.4	4,617	70,597
from and to		1909	Tons	3,702,051 1,842,328 1,908,304	1,696,945 9,387,631 7,396,563 6,191,041 6,978,576	3,162,642 1,330,561 436,912 8,107,756	1,943,682 474,388 1,800,003	578,743 1,175,508 387,099	2,507,275	5,301,511	66,309,519 70,597
tonnage ngdom,			Vessels	3,787 2,859 3,519	3,313 9,489 8,962 7,537	3,105 790 221 1,837	2,2882	137 348 90	816	5,111	11,250
Number and not tonnage of Yessels, including their repeated voyages, thus effected and elemed, with eargees and in bullest, at ports in the United Kingdom, from and to the principal foreign countries and British possessions, in each of the years 1999, 1910, and 1911.		COUNTRIES		Russla. Swedon. Norway Denmark (in-	land and Greenland) Gormany Netherlands Belgium	Spain Italy Egypt U.S.A.	Argentine Republic Channel Isles British India	Hope and Natal Australia New Zealand Canada and	~	tries.	Total .

TONNAGE AT PRINCIPAL PORTS

The principal ports in the United Kingdom, as indicated by the number and net tonnage of vessels that arrived and departed with cargoes from and to foreign countries and British possessions in 1911, are in order of tonnage as hereunder:—

Port	 Vessels	Tons
London Liverpool (including Birkenhead) Cardiff Newcastle, and N. and S. Shields Southampton Glasgow Cork (including Queenstown) Hull Plymouth Swansea Newport Blyth Dover Middlesbrough Sunderland Leith Grimsby Manchester (exclusive of Runcorn) Weymouth Bristol	1964465330 322264665330 192299264665330 19229926465330 192299264665330 1922992646653 192299264668991 19229926468991	11,172,298 10,445,254 8,794,257 8,335,762 5,343,948 4,050,855 3,653,384 3,601,467 3,568,028 2,419,294 2,123,501 2,108,824 1,965,358 1,797,702 1,587,180 1,508,595 1,349,882 1,139,915

VESSELS ON THE REGISTER

Total number and register (net) tonnage of sailing and steam vessels (registered under Part I. of the Merchant Shipping Act, 1894) remaining on the registers at ports in the United Kingdom, the Isle of Man, Channel Islands, and other British possessions, on Dec. 31 of each of the years 1909, 1910, and 1911.

	Unite	D Kingdom (i	ncluding	Isle of Man	and Chan	nel Islands)
		1909		1910	1	1911
	Vessels	Tons	Vessels	Tons	Vessels	Tons
Sailing Vessels Steam Vessels	9,392 11,797	1,301,060 10,284,818	9,090 12,000	1,112,014 10,442,719	8,830 12,212	980,997 10,717,511
Total .	21,189	11,585,878	21,090	11,555,663	21,072	11,608,503

VESSELS ON THE REGISTER-continued

		Вкітіѕн Со	LONIAL	AND OTHER	Possessi	ons,		
		1909		1910		1911		
	Vessels	Tons	Vessels	Tons	Vessels	Tons		
Sailing Vessels Steam Vessels	12.236 5,373	873,395 888,740	12,291 5,547	879,926 926,399		873,749 961,241		
Total .	17,609	1,762,135	17,838	1,806,325	18,082	1,834,990		

				Total		
		1909		1910		1911
	Vessels	Tons	Vessels	Tons	Vessels	Tons
Sailing Vessels Steam Vessels	21,628 17,170	2,174,455 11,173,558	21,381 17,547	1,992,870 11,369,118	21,157 17,997	1,854,746 11,678,752
Total .	38,798	13,348,013	38,928	13,361,988	39,154	13,533,498

PORTS, IN ORDER OF REGISTER TONNAGE OF VESSELS

The number and register (net) tonnage of sailing and steam vessels remaining on the registers at the principal ports of registry in the United Kingdom at the end of 1911 is as hereunder, in order of tonnage:—

		Port				 Vessels	Tons
Liverpool . London . Glasgow . Tyne Ports (N. Hartlepool, E. Cardiff . Sunderland Belfast . Hull . Greenock . Leith . Southampton .	ewens and V	tle, I	: : : : :	s. s	luields)	1,371 1,867 1,469 700 313 310 211 157 721 136 212 203 62	2,644,205 2,089,795 1,885,793 691,049 551,071 448,132 300,095 270,256 230,011 193,446 149,282 133,611 116,777

N	lercantile		
	id to work ne certifi- endorsed,	1161	100,106
11	Boats employed, the certificates of which were endorsed or for which new cates of which were endorsed, etc. Men and Boys required to work boats employed, the certificates or diplicate certificates were issued	1910	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
, AND 19	Men and I boats er cates of etc.	CoGx	102,780
00, 1910	he certi- were en- nich new rtificates	1161	22,392
OF 19	Soats employed, the certificates of which were endorsed or for which new or duplicate certificates were issued	0161 6061	22,586
E END	Boats en ficates dorsed or dup were is	6061	23,206
AT TH	ster	1161 0161 6061	24,002
ISTER	Boats on Register	1910	24,417
e ileg	Boar	1909	24,913
11			
No S			٠.
FISHING BOATS ON THE REGISTER AT THE END OF 1909, 1910, AND 1911			United Kingdom . Isle of Man and Channel Islands
- (!	24

190 26,929 887,733 Net Tons 914,662 Total number and net tonnage of mercantile vessels launched in the United Kingdom in each of the years 1909, 1910, and 1911. 101,516 717.1 Total 23.4 286 790 9,507 1,076 Vessels 101,995 3,882 $\frac{138}{469}$ Net Tons Wood 1161 22,885 | 104,341 21.301 117 883,851 142 905,155 259 16 Vessels 10,977 Net Tons Steel 84 218 169 648 817 Vessels 23,100 89,724 262 | 20,477 604 580,495 600,972 Net Tons Total 23,733 86 126 998 Vessels VESSELS BUILT 24,545 93 3,676 135 3,331 130 Net Tons 228 7,007 0161 Wood 54 Vessels 24,982 89,609 26,600 169 16,801 484,290 469,577,164 510,890 638 593,965 Net Fons Steel 25,496 05 7,315 81 114 102,389 122 રકિસ્થપ Net Tons Total 254 824 Vessels 111,5,219 94 1,986 375 619|503,685 |205|7,205 Total Net Tons 6061 Wood Vessels 143 21,381 56 6,940 113 102,379 Net Tons Steel Vessels

Mercantile $\frac{11,115}{182,019}$ 788 613,004 (215 7,590 (1,003 620,594 (811,691,217 (237,7,252 (1,018 608,469 (1,119 (1,097,682 (279,10,114 (1,398 (1,107,790 193,134 322 Wood, include composite vessels. 209 20, 192,527 305 97,497 212 Steel, include versely built of from or purtly of from and partly of steel, 245 ā

179 109,704 203 97,252

385

169'109,319 10

Total Total

oreigners:

Saffing

Sterm

Total

ad Colonies:

Sailing

Steam

or Home

VESSELS BUILT AT PRINCIPAL PORTS

Number and not tonnage of Mercantile Vessels (including those built for foreigners) launched in the United Kingdom, distinguishing the principal ports, in each of the years 1909, 1910, and 1911.

		Steam	Tons	84,855 12,965 1,264 23,584 170,238 230,536 190,662 39,627 84,691 107,491 56,441	1,069,752
	1161		Ves'ls	882 140 140 140 140 140 140 140 140 140 140	1,024
		Sailing	Tons	2,635 5,688 1,444 1,541 13,337 180 13,091	38,044
}		ά	Ves'ls	120 120 683 683 110 110	374
		Steam	Tons	50,031 9,554 10,210 45,950 106,416 116,959 119,651 119,651 119,651 119,651 119,651 119,651 119,651 119,651 119,651 119,667 119	670,219
}	0161	S	Ves'ls	222 224 244 200 105 109 111 113 128	730
	н	Sailing	Tons	2,763 6,858 1,303 8,193 8,193 9,006	28,250
-		Sai	Ves'ls	32 73 73 89 89 22 145	348
		Steam	Tons	35,904 6,681 10,125 25,576 80,484 1105,655 110,052 71,408 71,408 71,396 37,102	686,679
	1909	S	Ves'ls	2223 2223 2223 2233	₹89
	19	Sailing	Tons	2,206 4,432 1,257 1,257 266 12,928 11,928 11,917	33,916
		ίχ	Ves'ls	52 52 22 22 14 69 69 148	319
		Ports		Hartlopool, East and West Hull London Middlesbrough Stockforough Tyne Ports Glasgow Greenock Port-Glasgow Belfast Other ports	Total

VESSELS AND PERSONS EMPLOYED

the Merchant Shipping Act, 1894, belonging to the United Kingdom, Isle of Man, and Channel Islands, which were Total number and register (net) tonnage of vessels registered under Part I. and under both Parts I. and IV. (Flshing) of actually employed during 1911 in the home trade, in the trade with foreign countries, or in fishing; and the number of nersons on ployed therein

ot persons employed therein.							
				Persons]	Persons Employed		
	Vessels	Tons	British (other than Lascars)	Foreign (other than Lascars)	Lascars (British subjects and foreigners)	Total	
Sailing Vessels	3,863 9,548	699,335 10,814,871	18,346 186,719	2,382	45,452	20,728	
Total	13,411	11,514,206	205,065	30,783	45,452	281,300	

passenger vessels, but not beyond partially smooth water limits, are excluded. The number of such excluded vessels were Note.-Vessels employed on rivers and going bayond smooth water limits, as defined in the regulations regarding 781 sailing vessels of total tonnage 34,976, and 86 steam vessels of 3809 total tonnage. Under 'Lascars' are included Aslutics and Eust Africans, whether British subjects or foreigners, employed on vessels trading between India and this country or entirely in Asiatic or Australian waters, and serving under agreements which terminate in Asia.

TONNAGE OF PRINCIPAL MERCHANT NAVIES (BRITHSH AND FOREIGN) FROM 1906-1910 (INCLUDING BOTH SAILING AND STEAM VESSELS), SO FAR AS AVAILABLE

For further particulars of statistics relating to Mercantilo Marine, see the Annual Statement of the Navigation and Shipping of the United Kingdom laid before parliament,

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gold and silver it contained, and in-ferentially, of placing artificial re-straints on commerce to prevent money (q.v. and currency) from going out of the country. It is mainly of historical interest so far as England is concerned, though the agitation in recent years of the Tariff Reform Party threatens a partial reversion to what most English economists consider a fundamental fallacy. Towards the end of the 18th century, when the policy obtained in England, heavy duties were put on the importation of French wines and silks, and other commodities, and generally importation was discouraged, while everything was done by bounties and otherwise to foster exports. Adam Smith in his great classic gave the deathblow to the M. S., as it was officially expounded in Mun's book, England's Treasure in Foreign Trade, the title of which at that time had become a fundamental maxim in the political economy of all commercial countries (see Book iv. of the Wealth of Nations). He shows how deeply rooted was this old fetich of English statesmen, by reference to the theory of its then foremost philosopher, Locke, that the great object of a nation's political economy ought to be the multiplication of the precious metals as 'the most solid and substantial part of its movable wealth. From Adam Smith we learn that there were some six principal means by which the M. S. proposed to increase the aggregate amount of gold and silver in any country by turning the balance of trade in its favour. Two were retrade in its favour. Two were restraints upon importation, and they were imposed either by high duties or by absolute prohibition: (1) Restraints upon the importation of such feeding reads for high the straints upon the importation of such foreign goods for home consumption as could be produced at home, irre-spective of the country of importation. The result of such restraints was to give a monopoly to home producers. and to raise the prices to the consumers far beyond those of similar from countries specially adapted by situation or otherwise to produce such goods cheaply. The notorious Navigation Act, primarily aimed against the Dutch, was an especially gratui-tous barrier to the economical supply of fish from a people who were not only the principal fishers in Europe, but by reason of their proximity could supply England at a low cost of transportation. But even Adam Smith had to concede that the Navigation Act fallacies of the system may be appro-was eminently favourable to the de-velopment of English shipping, what-ing and functions of money (see Cur-

Mercantile System, or Commercial ever its effect on foreign commerce. System, the policy of estimating the (2) Restraints upon the importation wealth of a country by the amount of of goods of almost all kinds from those particular countries with which the balance of trade was supposed to be disadvantageous. Adam Smith's lengthy arguments against this restraint may be summed up in his position that the balance of produce and consumption may be constantly in favour of a nation though the balance of trade (an expression used to denote the supposed loss from foreign trade through the amount of gold and silver exported, as measured by that part of the imports which had to be paid for in gold and silver) be against it, by reason of the fact that though its circulating coin may be fast going out of the country or replaced by paper money, its real wealth, the exchangeable value of the annual produce of its lands and labour, may all the while be increasing in much greater proportion than its debts. Exportation was encouraged (1) by drawbacks (see Customs Duties) in favour of (a) home manufactures subject to duties on exportation, and (b) foreign dutiable goods imported for (2)immediate re-exportation; bounties to foster new or developing manufactures, such as were supposed to be especially meritorious. The absurdity of these bounties was never more convincingly expressed than by Mill, who points out that we induced foreigners to be the foreigners. Alli, who points out that we induced of foreigners to buy from us rather than from other countries, by a cheapness which we artificially produced, by paying part of the price for them out of our own taxes. . . No shopkeeper, I should think, ever made a practice of bribing customers by selling goods to them at a paragraph. ing goods to them at a permanent loss, making it up to himself from other funds in his possession.' (3) By commercial treaties (q.v.); (4) by the establishment of colonies in distant countries from the supposed vantage of compelling them to buy English commodities in exchange for their own. The only exception to the M. S. were those required by the system itself. The materials and instruments of production were the goods imported without restrictions subjects of a converse policy, designed

export more largely. Again, importa-tion was allowed or favoured when confined to productions of countries which were supposed to take from Great Britain still more than it took from them, i.e. from those countries which were supposed to have the balance of trade against them. The balance of trade against them.

RENCY and Money), and from Smith's Nancy, etc., showed themselves the theorem that if all restrictive duties dinest soldiers in Europe, and devoted were discontinued the exports and themselves for a long time to prowere discontinued the exports and imports of any nation tend to an equality (see also IMPORTS and EXPORTS; PROTECTION).

Mercator, Gerhard (whose real name was Gerhard Kremer) (1512-94), a mathematician, born in Rupelmonde in E. Flanders, but was of German extraction. He was early fascinated by geography, and after enjoying the patronage of the emperor, Charles Y., became in 1559 cosmographer to the He ori-Duke of Jülich and Cleves. ginated the device of projecting the meridians on maps as equidistant parallel lines, and latitudes as parallel straight lines at right angles to the meridians. See MAP.

real Mercator, Nicholas (whose Was Ni name

(1610-87), a Da

It was he who metical means of determining the area of spaces between the hyperbola and its asymptote, and who availed himself of this discovery to draw up logarithmic tables.

Mercato Saraceno, a tn. in Emilia, Italy, on the R. Savio, 20 m. W.S.W. of Rimini. Pop. less than 8500.

Merced: 1. Cap. of Merced co., California, U.S.A., 110 m. S.E. of San Francisco. Tourists who wish to see the Yosemite valley start from here. Pop. (1910) 3102. 2. A riv. of California, U.S.A., a trib. of the San Joaquin R., having a length of 160 m. It traverses the Yosemite valley, and has two falls, 600 and 350 ft. respectively.

Mercedes: 1. A tn. of Argentine, 61 m. by rail W. of Buenos Ayres. It has steam mills, soap factories, etc. Pop. 10,000. 2. Cap. and health resort of the prov. of Soriano, Uruguay, on the Rio Negro, 20 m. E.S.E. of Fray Bentos. Pop. 9000. Mercenaries (Lat. mercenarius, from

merces, gain) are soldiers who offer their services for money to the army of any country which is willing to employ them. Greece found it the following the means of reputation had collected at the hidding of the reputation had been considered as the flower of the army. The famous Ten Thousand was composed of M., whom captains of reputation had collected at the hidding of the reputation. collected at the bidding of the younger Cyrus. In Norman times M. were employed by the king, and the bulk of a mediaval army often consisted of professional soldiers who were paid by a scutage tax levied on the peasantry. In addition to the mercenary cavalry, Brabancon pikemen and Italian crossbowmen were employed as M. The Swiss, by such that he afforded the prosecutor all the victorics as those of Granson, Morat, information in his power as to the

fessional soldiering, particularly in the employ of France. The Lands-knechts, who fought generally in imperial armies, were a fine type of M., and contributed more to the modern army in customs, etc., than even the Swiss. Throughout the 18th century Hessian regiments were employed for respant regiments were employed for temporary purposes by the British government (e.g. the King's German Legion was enrolled in 1794), and Germans, Swiss, and Italians were enrolled during the Crimea. Now, in the British army, not more than one in fifty may be of another nationality same by the energy of Indian preprincip save in the case of Indian regiments. The employment of mercenary soldiers led to such things as the 'right of sack,' etc., and also to such developments as the condollieri (a.b.), and the present state of public opinion concerning war would pre-clude any such system. See ARMY, FOREIGN LEGION, and the different countries named, etc.

Merchandise Marks. The offences relating to trade marks specified in the Merchandise Marks Act, 1887, bear a close resemblance to forgery. Counterfeiting trade marks and applying false trade descriptions are the principal offences dealt with. The Act makes it a criminal offence, punishable either on indictment with imprisonment up to two years with or without hard labour, or a fine, or, summarily, with imprisonment up to four months or a fine not exceeding £20 (six months and £50 respectively in the case of a subsequent conviction), inter alia: (1) To forge a trade mark, (2) falsely to apply to goods any mark so nearly resembling a trade mark as to be calculated to deceive, (3) to make a die for the purpose of forging a trade mark, and (4) to apply a false trade description to goods. A trade description means

facture or production: (iii.) the material of which goods are composed: or (iv.) any patent, privilege, or copyright. The accused will escape conviction only if he can prove that he acted without intent to defraud. Ιt is also an offence under the Act to is also in one counter the Act to have in one's possession for sale any manufactured goods to which any forged trade mark or false trade description is applied, unless the possessor can satisfy the court that he took all reasonable precautions, had no reason to suspect the genuineness of the mark or description, and that he afforded the prosecutor all the information in his power as to the

source whence he obtained the goods; such other particulars descriptive of in question. In all cases, the offending goods must be forfeited. prosecution under the Act is allowed after three years from the commission of the offence or after one year from its discovery.

Merchant Adventurers' Company was founded in 1296 by the Duke of Brabant. In England it did not begin its activities until the reign of Edward III., and it was not incorporated till 1553. Sebastian Cabot (1476-1557) was governor, and it was under his Mosow via the White Sea and thus opened up a trade route between this country and Russia. But the company traded chiefly with the Netherlands, and under James I. its yearly commerce with the Dutch and Germans amounted to £1,000,000. The Merchant Adventurers became known as the Hamburg Company, when Hamburg became their chief

Merchant Shipping. The law on M. S. is mainly to be found in the Merchant Shipping Acts, 1894 and 1906, the first of which is practically exhaustive of the subject (except in so far as mere customary law is concerned). None but British subjects can own any share in a British ship, and all but the smallest fishing or coastwise trading vessels must be registered under the Act or they will There is

class of property, for even land in the Eritish Isles may be owned to any extent by foreigners. The main provisions of the Merchant Shipping Act, 1894, as amended or supplemented by the Act of 1906 and other

Acts, are as follows:

port of traffic.

Part I. Registry.—No ship will be a British ship unless owned by (a) Natural-born British subjects, (b) naturalised British subjects, (c) corporate bodies subject to British law and having their principal place of business in the British dominions. Persons who are: (1) Both naturalborn British subjects and citizens of a foreign state, or (2) naturalised British subjects will not be qualified to own a British ship until they take the Oath of Allegiance to the king of Great Britain, and, further, unless during ownership they either reside in the dominions or are partners of a firm carrying on business in the dominions. All British ships, except river or coastwise ships not exceeding 15 tons burden, and certain smaller Canadian fishing boats, must be registered at some port in the British dominions. Before registry, a ship's other port in any British possession, tounage and build, together with the chief officer of customs, or if

her identity as may be required by the Board of Trade, must be certified by a surveyor; and her name (which can never be changed without the previous written consent of Board of Trade), the name of her port of registry, her official number, and a scale of feet denoting her draught must be conspicuously marked on the parts indicated by the Act. A written declaration of ownership, with a full statement of his qualifications for ownership, must be made and signed by the applicant before he will be entitled to be registered as owner. On completion of the formalities of registry, the of the formalities of registry, the registrar of the particular port at which the ship is registered will grant a certificate of registry. This certificate may be used only for the lawful navigation of the ship, and cannot be taken by any person in the exercise of any lien, mortgage, charge, or other right or interest over the ship but the master for the convertiber. ship, but the master (q.v.) or any other person entitled to the control of the document for the purpose of navigation must, on pain of a heavy fine, deliver it to any registrar, officer of customs, or other person officially entitled to call for its production. The mode of transfer of a registered ship or share therein, when disposed of te a person qualified to own a British ship, must be by 'bill of sale' in a prescribed form, containing such a description as will be sufficient to on alien identify the ship to the satisfaction of the registrar, and when duly executed, the bill must be produced to the registrar for endorsement of his record of it in his register book. Transmission of ownership on death, marriage, or bankruptey must always be authenticated in the manner pro-

> cceds, after deduction of expenses, to be paid to the person entitled on A valid transfer may transmission. be made to a person not qualified to be a British owner, but the ship then at once loses her British character, and her certificate of registry must be given up, and if she be kept on the register subsequent to such transfer she will be subject to for-feiture. The following are registrars for the purpose of the Act of 1891: At any port in the United Kingdom or Islo of Man, the chief officer of customs; in Guernsey and Jersey, the chief officers of customs and the governor; in Malta and Gibraltar, the governor; at Calcutta, Madras, and Bombay, the port officer; at any other port in any British possession.

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none, the governor or his deputy ad time at which each seaman is to be hoc. A British ship is bound to carry on board or begin work; (d) the hole, the governor or his depthy ac-hoc. A British ship is bound to carry certain papers, and those generally carried are: (1) The certificate of registry, (2) the agreement with the seamen (see below), (3) the charter-parties and the bills of lading (if a merchantman), (4) the bill of health. (5) invoices containing particulars of cargo, (6) official log (see below). These papers must be shown to any naval commissioned officer, officer of the Board of Trade, chief officer of customs, mercantile marine office British superintendent, British consular officer, or registrar-general of seamen who may require to see them (Steven's Mercantile Law). It is a felony to forge, or in any way to assist in the forgery or fraudulent alteration of a register book, ship-builder's or surveyor's certificate, or certificate of registry, declaration, bill of sale, instrument of mortgage, or certificate of sale or mortgage, and a false de-claration is a misdemeanour which renders the offender liable not only to imprisonment but to the forfeiture of his share in the ship. There are also other provisions in this part of the Act and that of 1906 to safeguard the national character of British shipping and to protect the British flag against imposition. The assumption of the an enemy) involves forfeiture

Act of 1906 also provides perfor not hoisting the proper not colours when signalled by a s ment ship on entering a foreig or (if upwards of 50 tons burden) on

entering or leaving any British port.

Part II. Masters and seamen.—This

part of the Act regulates the grant of certificates of competency to masters, engineers, and other officers of ships, enables poor law guardians to apprentice, with their consent, pauper boys of twelve years of age who are of sufficient health and strength to the sea service, and deals fully with the engagement, discharge, wages, property, health, protection, and discipline of seamen. No one may engage or supply a seaman or apprentice without a licence to do so from the Board of Trade. The master of every ship (except in the case of ships of less than 80 tons burden) must enter into and sign an agreement with the crew containing these particulars:
(a) The nature and, as far as practicable, the duration of the intended voyage or engagement and the parts of the world, if any, to which the engagement or voyage is not to

on board or begin work; (a) the capacity in which each seaman is to serve; (c) the amount of wages; (f) scale of provisions; and (g) regulations as to conduct on board, including fines or other lawful punishment for misconduct. There are special provisions as to signing in the presence of a superintendent in the case of agreements with crews of foreign-going ships. Running agreements. i.e. those extending over two or more voyages, may not go beyond the next following June 30 or Dec. 31, or the first arrival of the ship at her destination in the United Kingdom after that date, or the discharge of cargo upon that arrival. The master must, at the beginning of every voyage, post up a legible copy of the agreement with the crew in some accessible part of the ship. Agreements with lascars or any natives of India are also subject to special provisions mainly designed to ensure their return to India. Generally speaking, a seaman must have served four years must must have served four years before the mast to be entitled to the rating of A.B. Before paying off or discharging a seaman, the master must deliver either to the seaman or a superintendent a true account of the wages due. Stipulations by a seamen at the beginning of a versus. British flag on board a ship owned man at the beginning of a voyage for wholly or in part by disqualified the allotment of any part of his wages persons (save to avoid capture by during his absence are for the most

man has a right to his wages whatever may happen to the ship, and an inallenable right of lien over the ship for their payment, but wages will not accrue during his refusal to work, imprisonment, or illness by his own default. Wages due up to the amount of £50 may be sued for summarily before any magistrate whose court is at, or near, the place where the service has terminated. There are also stringent provisions relative to also stringent provisions reliable to the mode of dealing with the effects of seamen who may die on board ship. Severe fines may be inflicted on masters inexcusably leaving foreign seamen in distress in the United Kingdom. The Act of 1906 provides for the mode of dealing with wages and effects of seamen left behind out of the British Islands, and for the repatriation of distressed seamen, and seamen left on land abroad without their consent or through dis-charge consequent on change of ownership of the ship at a foreign extend; (b) the number and descrip-port. Shipowners are bound to supply tion of the crew, specifying how medicines, medical stores, and anti-many are engaged as sailors; (c) the scorbutics (against scurvy) for use

for the crews of certain ships (mainly those going through the Suez Canal or round the capes of Good Hope or Horn) are subject to inspection by qualified medical inspectors of ships. The Act of 1906 requires the master to furnish every member of the crew with provisions in accordance with the scale laid down in the first schedule to the Act. Masters are required to keep official log books which may be kept distinct from or united with the ordinary ship's log: but in any case the official log must contain certain specified entries, mainly relating to illnesses, deaths, wages, and statements of the conduct of the members of the crew. This part of the Act also authorises the formation of local marine boards under the superintendence of the Board of Trade, for carrying into effect such of the provisions of the Act as relate to their powers and duties. Every local marine board must send to the Board of Trade such must send to the Board of Trace such reports and returns as may be required by the Board. The seventh schedule to the Act provides that a local marine board shall consist of:

(a) The mayor or provost, and the stipendiary magistrate of the particular district; (b) four members appointed by the Board of Trace recidents or business men at the from residents or business men at the

particular port.

Part III. Passenger and emigrant marked ships. — The expression emigrant maximum ship includes only ships carrying (a) was to more than fifty steers or (b) in the case of

more than one statute of twelve years or mor the ship's tonnage, or (c) in the case of steamships, one statute adult to statute law on the subject since 1875 20 tons. The Act of 1906 makes some in the main embodies an empirical important amendments to this part of the Act of 1894. A ship may not carry passengers, whether cabin or steerage, on more than one deck below the water-line, under a penalty not exceeding £500. The Act of 1894 prohibits shipowners and masters of 1890, and lars down important propassenger steamers, under pain of fine, visions as to the time of marking the from carrying passengers in excess of load-line in the case of different class the number allowed by the passenger of vessels. Mr. Lloyd George's Mersteamer's certificate. There are also chant Shipping Act of 1906 applies that the control of the con steamer's certificate. There are also chant Shipping Act of 1906 applies copions provisions relating to the the British load-line provisions to general equipment of passenger steamers with compasses, hose, and safety appliances; the maintenance out order on passenger steamers; the survey of emigrant ships before proceeding outwards; the supply of provisions and water, and the carrying of that country so desire). But the Act

on board the ship. Such medicines, an adequate medical staff on cmietc., and the provisions and water grant ships; the prohibition of the grant ships; the prohibition of the carriage of explosives or other dangerous goods, and the conditions under which cattle may be carried on emi-grant ships; the delivery by the master to the oustoms officer at the port of clearance of a duly signed duplicate of the list of passengers, both cabin and steerage; the forfet ture or release of a ship on payment of extremely heavy penalties for pro-ceeding to sea without the master having obtained a certificate for clearance: forwarding passengers from wrecked or damaged ships; and licences for emigrant runners (or passage brokers agents), together with the conditions under which such persons may carry on their business.

Part IV. This part deals with fish-

ing boats and trawlers.

Part V. Safety.—This part of the Act empowers the Board of Trade (strictly the crown by order in council (q.v.) on the advice of the Board of Trade) to make regulations for the prevention of collisions at sea. These regulations contain stringent pro-visions as to lights, fog signals, and steering and sailing rules. The Board of Trade is also empowered to make rules as to the life-saving appliances to be carried on board ship. There are

also important provisions as to record-ater, and the A short Act Mr. S. Plim port or within 7 miles thereof; and soll, M.P., requiring the position of foreign-going and home trade the deck to be shown on the side of a passenger ships registered at the ship, and every foreign-going Brillish particular port.

he enforcement of a . (i.e. space between in the main embodies an empirical solution of the difficulty by the voluntary acceptance of freeboards assigned by the committee of Lloyd's Regisler. The Merchant Shipping Act of 1894 incorporates the provisions of Plim soll's Act, and the Load Line Act of 1890, and lays down important pro-yisions as to the time of marking the make exceptions in the case of steamships that are not carrying cargo, and by minutes of April 24 and May 30, 1907, the Board excepted these classes of coasting steamers: tugs and salvage steamers, steamers surveying harbours and approaches thereto, hopper barges and dredgers, pilot vessels and passenger steamers holding passenger certificates plying in smooth or partially smooth water limits, or in excursion limits. By the Act of 1906 the conditions under which heavy timber goods may be carried as deck cargo are: (a) That they be only carried in covered spaces and in such classes of ships as may be approved by the Board of Trade for the purpose; (b) that they be loaded in accordance with regulations made by the Board with respect to the loading thereof. There are also analogous provisions as to loading 'light wood goods' on deck. Specified precaugoods' on deck. Specified precau-tions must also be taken to prevent from shifting. Sending unseaworthy 'ships to sea renders the master, and any person party thereto, liable to a prosecution, the only defence to which is that such unseaworthy state was in the circumstances reasonable and justifiable.
Unsafe ships, i.e. ships which by reason of the defective condition of the hull, equipments, or machinery, or by reason of overloading or improper loading are unfit to go to sea without serious danger to life, may be detained by Board of Trade officials for survey, and, if necessary, will not be released until made seaworthy. Costs incidental to survey and detention are recoverable from the owners as salvage.

Part VI. relates to inquiries and investigations as to shipping casualties, and the constitution of courts of survey and naval courts on the high

seas and abroad.

Part VII. empowers a shipowner to land and warehouse cargo where the consignee fails to take delivery, and, by giving notice to the wharfingers, to retain control in the exercise of his lien for freight (see LIEN). If the lien is not discharged by pro-duction to the wharfinger of a receipt for the amount of the shipowner's freight and charges, and by payment on deposit by the owner of the goods of the amount claimed, the wharfinger may sell at the end of ninety days and apply the proceeds to the pay-ment of customs and excise duties, expenses of sale, warehouse charges, freight and other shipowner's charges (in that order), the balance (if any) to be paid to the owner of the goods.

Part VIII. as amended by the

of 1906 allows the Board of Trade to | owners and Others) Act, 1900, and the Merchant Shipping Act of 1906, limits the liability of a shipowner, British or foreign, for loss of life or personal injury, or for loss or damage to goods, by reason of the improper navigation of his ship, or through any other cause not due to his actual fault or privity (whether in respect of persons and goods carried on his ship or on another ship with which his ship may have collided), to an aggregate amount not exceeding £15 per ton of the ship's tonnage for loss of life or personal injury, and £8 per ton for loss or damage to vessel's goods and merchandise.

Part IX. deals with the powers and duties of receivers of wreck, the right of the crown (q.v.) to un-claimed wreck, and the removal of trained wreek, and the reinoval of wreeks by harbour authorities; regu-lates the trade of a marine store dealer; and regulates the procedure in salvage, providing for the mode of its apportionment among different

claimants.

Part X. deals with the powers of the Board of Trade as to pilotage districts and authorities; enables pilotage authorities to make laws to exempt masters and any class of ship from being compelled to employ qualified pilots (compulsory pilotage); regulates the licensing of pilots and the recovery of pilotage dues; empowers pilotage authodues; empowers pilotage authorities to grant to masters certificates of competency to act as pilots; empowers the Board of Trade to grant similar certificates to masters and mates so as to exempt them from the obligation to carry compulsory pilots in any home trade passenger ships belonging to the same owner.

Part XI. regulates the powers of lighthouse authorities throughout the

British dominions.

Part XII. specifies the sources and application of the Mercantile Marine Fund.

Part XIII. regulates legal pro-

ceedings under the Act.

Part XIV. relates to a variety of miscellaneous subjects, inter alia the appointment of surveyors by the Board of Trade; the powers of the Board for enforcing compliance with the Act; and the appointment of inspectors to report on accidents.

Merchants, Statutes of, see ACTON BURNELL, STATUTE OF.

Merchant Taylors' School public day-school for boys in London. It was founded in 1561 by Sir Thomas White and by the company of Mer-chant Taylors of whom the govern-ing body is still composed. The old school buildings were destroyed by the great fire (1666) and were recon-Part VIII. as amended by the the great fire (1666) and were recon-Merchant Shipping (Liability of Ship-structed in 1667; the present house was erected in 1873-74 on the site of learth's mean distance): Charterhouse.

Merchtem, a tn. in the prov. of Brabant, Belgium, 8 m. S.E. of brabant, Belgium, 8 m. S.E. of Dendermonde. Pop. about 5500.

Merchweiler, a tn. in the Rhenish prov. of Prussia, 33 m. S.S.E. of Trèves. Pop. 5317.

Mercia. 2 2027.

Mercia, a central kingdom of England in the days of the Anglo-Saxons. The name refers to the march or borderland beyond which dwelt the hostile Welshmen. In the days of its prosperity it extended from the Humber to the Thames, omitting, of course, the Danish East Anglia. There were independent

Penda (626-655) and Offa (755-794). Mercié, Marius Jean Antonin (b.1845), French sculptor and painter. Toulouse. born at He became famous when he exhibited his patri-otic work in bronze entitled 'Gloria He also executed in marble a beautiful statue for the tomb of Mme. Charles Ferry, 'William Tell' (in Lausanne), 'Thiers' (in St. Germain-en-Laye), and a group called 'Justice' (in the Hôtel de Ville, Paris).

Justice (in the Hotel de Ville, Paris).
Mercler, Louis Sebastian (17401814), a French man of letters; exposed with trenchant satire the corruption of the metropolis in his
Tableau de Paris (1781-88), wrote
upwards of fifty plays, and directed
his raillery with equal force against
the dramatists of the classical school, the philosophers, and the scientists.

Mercure de France, established in 1672 as the Mercure Galant, in 1714

best contemporary French poets of vaporised, the Symbolist school. It ceased through a publication in 1799, was revived a where the vapour is condensed. few years later, but finally dis-mines occur in a very few p few years later, appeared in 1825.

Mercurius, or Mercury, was the Roman god of commerce, his name being derived from merc, mer-A temple near the circus Maximus was dedicated to him, and his festival was celebrated on May 15 by the mercuriales, who were members of a college regulating the corn trade. Mercury was identified with the Greek Hermes as early as 495 B.C.

Mercury, the planet nearest the sun, is the smallest of the major planets, having a diameter of about 3000 miles, i.e. ith that of the earth. It is three times the bulk of the moon; its mean distance from the sun is 36,000,000 m. (or 4 of the

and takes 87.969 days to revolve round the Owing to lack of distinct sur-marking it has never been sun. face definitely settled how long M. takes to rotate on its axis. For long it to rotate on its axis. For long it was thought that it did this in about 24 hours, but the opinion of Schla-parelli, backed by Lowell, is that M. rotates so slowly that the same face is always presented to the sun. The orbit of M. is of considerable eccenorbit of al. is of considerable eccentricity, so much so that it receives less than half the amount of heat from the sun during its aphellon passage than it does at perihellon, the mean of heat and light being seven times more than that received by the earth. The orbit is also inclined to the plane of the calling. sovereigns of M. at least from 615 to 874, when the Danes overran the eastinclined to the plane of the cellptic ern portion. The greatest kings were 7°, and at the maximum distance it is 28° from the sun. This means that the planet is only visible for about two hours before or after sunset. The apparent diameter of M. is from 5 in. to 13 in., and it shines with a greater brilliancy than the star Arcturus, but because of its closeness to the sun it is rarely seen. M. has been known from the most ancient times, but it was naturally not till the invention of the tele-scope that its transit across the sun's face was first observed by Gassendi on November 7, 1631

These transits occur at intervals of seven, thirteen, or forty-six years.
Mercury, or Quicksilver (Hg. 200), is one of the noble metals which is fluid at ordinary temperatures. occurs in an uncombined state as small globules, but its chief ore is cinnabar, HgS. The metal is obit was renamed the M. de F. It was tained from the ore by roasting it, a most enterprising paper, and besides the sulphur becomes oxidised to dioxide, and the mercury

a free state. During this becomethe mercury The vapour is passed ceased through a series of cooling chambers mines occur in a very few places, chief amongst them may be men-tioned Almadan (Spain) and Call--ome fornia. remarkab nt ight ordinary silvery liquid. At -38's it assumes a solid form, which is crystalline, ductile, malleable, and very soft. It boils at 357°, giving off a colourless vapour. Owing to this large range of temperature between the limits of of temperature between the limits of which it assumes the liquid state, M. is commonly used in thermo-

It is a fairly good conductor meters. of heat and electricity. It dissolves certain metals to form what are known as amalgams. These amalgams are used for several practical purposes, zinc amalgam is used to cover the zinc plates of batteries later published his first volume of owing to the fact that it is very slowly | Poems, with a dedication to his acted upon by dilute sulphuric acid. Tin amalgam is used for the construction of mirrors, whereas gold amalgam is used by dentists for filling teeth. M. forms two independent series of salts—the mercurous and mercuric. Mercuric oxide, a reddish crystalline powder, is obtained by heating mercury in contact with the air. This oxide is decomposed at a higher temperature into its constituent elements.

The mercuric series of salts are obtained from this oxide by dis-solving it in the various acids. Chief among these salts is mercuric chloride (corrosive sublimate) prepared by heating together a mixture of mercuric sulphate and common salt. is a violent poison, the best antidote being the white of an egg. It is largely used as an antiseptic. Mercuric sulphide is obtained by rubbing vigorously together M. and sulphur. When this has been sublimed it assumes a red crystalline form known commercially as the pigment ver-milion. Calomel, or mercurous matton. Catomet, or mercurous chloride, is the most important of the mercurous salts. It is generally prepared by heating a mixture of mercuric chloride and M. The mercurous chloride sublimes as a white fibrous cake. It is insoluble white fibrous cake. It is insoluble in water, and is tasteless. M. is used largely in medicine, but rarely in the uncombined state. Tt. is generally used in the form chlorides or iodides. Mercury com-pounds, especially if they are soluble, are very poisonous, and even as medicinal preparations should not be persisted in for long periods.

Mercury, Dog's (Mercurialis perennis), a poisonous weed with a creeping rhizome and an erect unbranched stem bearing rough, hairy leaves and small diceious flowers, the male in racemes and the female in spikes.

Mercy, Sisters of, see SISTERHOODS. Mer de Glace, a glacier 16 sq. m. in area, on the northern face of Mont Blanc near Chamonix, in the Alps, Switzerland.

Poems, with a dedication to his Poems, with a dedication to ms father-in-law. His first prose work, The Shaving of Shagpat, appeared in 1855, but neither that nor Farina (1857) attracted much attention at the time. The Ordeal of Richard Feverel (1859) was acclaimed by several critics, but it was not a financial success, and M. perforce had to turn to journalism for a living. had to turn to journalism for a living. Evan Harrington (1860) was more remunerative, and it is certainly one of the most amusing of his novels. Sandra Belloni (1863) and the sequel Viltoria (1866) did nothing to scenre him public recognition; but Rhoda Everying (1865) did not him public recognition; but Rhoda Everying (1865) was reidely Fleming (1865) was more widely read, though it is a painful, if a beautiful, story. The Adventures of Harry Richmond (1871), which had been serialised in the Cornhill Magabeen serialised in the Cornhill Magazine, improved his position, and this, with The Egoist (1879) and Diana of the Crossways (1885), are among his best books. He wrote many peems, and collected them at various times under the titles of Modern Love, Poems and Lyrics of the Joy of Earth (1883), Ballads and Poems of Tragic Life (1888), etc. Though generally recognised as the greatest novelist of his day. M. was never widely read. He day, M. was never widely read. He was the novelist of the man of letters was the novelist of the man of letters rather than of the general public. He has been well, if unkindly, summed up by Oscar Wilde: 'His style is chaos illumined by flashes of lightning. As a writer he has mastered everything but language.' The obscurity of his style used at one time to be hailed by the intellectuals' as his great merit, but it is now generally accepted that he

clearly, he had wit in abundance, and a power of understanding and describing women that is at once the joy and despair of his brother-novelists. His poetry was full of novensts. His poetry was full of true appreciation of nature, and he could write poetry not only in verse but also in prose, as in 'Diversions on a Penny Whistle' in Richard Feverel. Like all great writers, he had full confidence in his powers, and attained easily to heights that few of his contemporaries would have dared to scale. As Stevanes harmly Alps, Switzerland.

Meredith, George (1828-1909), a on a Penny Whistle' in Richard novelist and poet, was descended from a family that had been for several generations tailors at Ports-and attained easily to heights that mouth. M. was educated in his rewards at the Moravian School at Neuwied, near Coblenz. In 1844 he came to London, and was articled to a solicitor, but he soon drifted into authorship, and was articled to a solicitor, but he soon drifted into authorship, and the provide the author of The wrote poems which appeared in Household Words and Chambers's Journal. He married Mrs. Nicolls, Secombe, who wrote the article on the widowed daughter of Thomas Love Peacock, in 1849, and two years

WARD ROBERT BULWER.

Merendera, a genus of hardy bulbs allied to the genus Colchicum (q.v.).
Merewether, a vil. forming a suburb of Newcastle in Northumberland

New South Wales. Pop. 4500.

Merganser (Mergus), a genus of sea ducks characterised by a very Mergus long slender beak. long stender beak. Mergus merganser, sometimes called the Goosander or Jacksaw, is a handsome British bird. The male's plumage is variegated with black, greenish-black, pink and white. The redblack, pink and white. The red-breasted M. (M. serrator) breeds in the north of Britain; the drake has a crested glossy green head, white neck, red breast, and black upper surface with white margins. australis is a rare species found only in the Auckland Islands.

Mergui, a dist. and seaport of Lower Burma. Forests of teak, etc., cover almost all the 9789 sq. m. of the dist. which lies in the Tenasserim The town is now a pearling station, and exports rice, timber, rattans, dried fish, etc. Pop. 15,000.

Mergui Archipelago, a group of hilly islands off the Tenasserim coast in the Bay of Bengal. The native Selungs barter caoutchouc, edible birds' nests, and beche-de-mer for rice and spirits.

Merheim, a tn. in the Rhenish prov. of Prussia, 4 m. E.N.E. of Cologne.

Pop. 23,631.

Merian, Matthew (1621-87), a portrait painter; did not renounce his own profession when, in 1650, he inherited his father's book and print

business. He painted an equestrian picture of the Emperor Leopold I.

Merida: 1. (ancient Augusta Emerida, the cap. of Lusitania) A tu. 32 m. E. of Badajoz, on the Guadiana, in Badajoz, Spain, with numerous Roman remains. Pop. 10,000. 2. A university city, 336 m. S.W. by W. of Caracas, and the cap. of Los Andes, Venezuela. Pop. 12,000. 3. The cap. of Yucatan, Mexico, 23 m. S. of its port, Progreso, on the Gulf of Mexico. The chief exports are hencquen (sisal fibre), sugar, rum, cigars, and hides. Founded by the Spaniards in 1542, it has a cathedral and a university. Pop. 62,000.

Meriden, manufacturing a tn., plated ware and cutlery, etc., 18 m. N N E of New Haven, Connecticut, lated ware and the late of New Haven, Connecticut, I.S.A. Pop. (1910) 27,265.
Meridian (from Lat. meridies, noon), U.S.A.

and S. poles. Each terrestrial has a logical essay as Description descorresponding celestial M., which passes through the N. and S. celestial tories as the Chronique de Charles IX. poles, and also through the zenith (1829) and the Histoire de Don Pedre

Meredith, Owen, see Lytton, Ep- and nadir of any place on that terresard Robert Bulwer. trial M. When the sun passes the M. of Greenwich, it is not only noon at Greenwich, but also at all places situated on the same half of that M.

Meridian, co. seat of Lauderdale co., Mississippi, U.S.A., 89 m. from Jackson. It is an important cotton-trade and industrial centre. Pop. (1910) 23,285.

Mérignac, a suburb 3 m. W. of Bordeaux, in Gironde, France.

Mérimée, Prosper (1803 - 70), a French man of letters, born at Paris, was the son of an artist. He was appointed inspector-general of historical monuments, and in 1853 a senator under the empire. His character is a fascination to the student of biography. A casual acquaintance



PROSPER MÉRIMÉE

would have found it hard to believe that his outward cynicism was only a mask for that warmth of feeling and capacity for dec . ment, which parties intimate as une Inconnuc over, have commented on his curious resemblance to the Florentine scholars of the Renaissance: his love of dwelling on the tragic, grim, and cery elements in life is emphasised in his powerful short stories, La Venus d'Ille, and Lolris, and in his vivid romance, La Jacquerie; and his tand of Rabelaisian humour is conspicuous in his letters to Panizzi. He recalled the Florentines in the diversity of his interests, a diversity which enabled him to write so valuable an archee-

Merionethshire, a maritime co. of N. Wales, bounded on the W. by Cardigan Bay. The co. is mountainous, the chief peaks being Arran Mawddwy (2972 ft.), and Cader Idris (2949 ft.). The most beautiful valleys are those of the Dovey (Dyfl), and the Mawddoch. The R. Dee (Dyfrdwy) drains Bala Lake (5 m.), the largest in Wales, and flows towards Corwen an English scholar, translator, and receiving several tributaries or way, and there are over fifty among the mountains and se waterfalls. Slate is quarried at Festiniog, and near Dolgelley, the co. tn., gold is found, while lead, copper, and manganese, have been worked. worked. Agriculture does flourish, except here and there in the valleys; the small hardy Welsh ponies are bred. Woollen stockings and flannels are manufactured. Bar-

mouth, Dolgelley, Harlech, are much visited by tourists. It returns one member to parliament. The area is 819 sq. m. Pop. (1911) 60,292. Meristem, generating tissue, that part of a plant where growth is active. It consists of cells of nearly uniform size capable of dividing to form new cells. These enlarge, and after certain modifications form the permanent

tissue.

Merivale, Charles (1808-93), an English historian, son of John Herman (d. 1844), born in London, and educated at Harrow, Haileybury, and Cambridge. He rowed in the first Cambridge. He rowed in the first inter-university boat-race (1829), and became rector of Lawford, Essex (1848-69); Hulsean lecturer (1861); Boyle lecturer (1864-65); chaplain to the Speaker (1863-69); and Dean of Ely from 1869. Among his works are History of the Roman Empire, 1850-

(1832), and became professor of political economy at Oxford (1837-42). M. was permanent Under-Secretary of State for the colonies, and for India from 1848. His publications include Lectures on Colonisation and Colonies, 1841, and Historical Studies, 1865. See Transactions of Devonshire Assoc., 1884. Merivale, Herman Charles (1839-1906), an English author and

dramatist, son of Herman (d. 1874), born in London, and educated Harrow and Oxford. He was called

All for H~

The Cyn

Fedora, Joan, 1885; The Don, 1885; The Whit Hand. The Master of Ravenswood, adapted from Scott's Bride of Lammermoor, was produced in 1891. See his Bar, Stage, and Platform, 1902. Merivale, John Herman (1779-1844),

educated led to the the Court

of Chancery, becoming Commissioner of Bankruptcy in 1831. His works include Orlando in Roncesvalles, 1814; Foems . . , 1838-41; Minor Poems of Schiller, 1844; Reports of Cases in Chancery, 1815-19; and contributed to Bland's Greek Anthology, 1813. See A. V. Memorials, 1884. W. Merivale, Family

Merka, or Markah, a seaport of Italian Somaliland, E. Africa, 45 m. S.W. of Magadoxo. Pop. (Arab and

Somali) 4000.

justie d'Aubigné, see Aubigné, Jean Henri Merle d'.

Merlin, or Falco esalon, a small British falcon found breeding in the N. of England and Scotland. Its nest is generally made on the ground, and in it three to five bluish-white eggs, blotched with brown markings, are Adult males are blue-grey on the head, back and wing coverts: the under parts are rufous; the tail is bluish-grey with dark bands and white tips; the legs are yellow and feathered a third of the way down. The young when first hatched are covered with a soft white down. When fully fledged they resemble the female, which is a more uniform brown.

Merlin, a wizard who worked many wonders at King Arthur's court. He sprang from the intercourse of a Welsh maiden with a demon, but was sayed by hearing from the court of the court saved by baptism from evil, although, throughout life, he retained from his father the power of magic and divination. It was he who revealed to Vor-tigern, King of Britain, the reason why his tower fell, and it was he who had the care of the infant Arthur and later disclosed to him his royal paren-Tennyson tells of the wisdom of M. in his Idylls of the King, but Geoffrey of Monmouth in his Vita Merlini was the first to throw light on his shadowy existence.

Merluccius, a genus of Gadidæ, or cod-like fishes with two dorsal and one anal fin. M. rulgaris is the hake. a large voracious, soft-fleshed fish. M. gayi occurs in the S. Atlantic.

Mermaids and Mermen (mere, lake:

mægd, maid), in the folk-lore of Great | traversed by the Jordan. It is the Britain, a class of semi-human beings, Lake Samochonitis of Josephus, whose true home is the sea. They were supposed to be capable of living on land and of entering into social relationships with ordinary mortals, and the typical mermaid is represented as a woman of exceeding beauty down to the waist, the figure ending in a fish's tail and body with scales and fins. Mermaid legends exist in and his. Mermaid regends exist in nearly all countries, and have given rise to beautiful tales and poems, such as D'Atras's Chronique de la Princesse Mélusine; Arnold's Forsaken Merman. The connection of these beings with mortals generally brings d'in its train. The Phænician and the

or Hea

sented: Sented Services of the Middle Baring-Gould, Myths of the Middle Ages; Sébillot, Contes des Marins, 1882; Joh. Gerbrandus a Leydis, Annales ..., 1620; Grimm, Deutsche Mythologic, i., 1811; Folklore Soc. Record, ii.

Mermaid's Purse, the purse-shaped egg case of the skates and dog-fish.

Mermaid Tavern. This tavern, mentioned in Expenses of Sir J. Howard (1464), stood in Cheapside, with side entrances in Friday Street and Bread Street, and was destroyed by the Great Fire of London. Raleigh is the reputed founder of the famous ' Mermaid Club ' (c. 1603. See Gifford's ed. Probably Jonson, of Ben Jonson). Beaumont. Fletcher, Donne, Shakespeare, were members of this club, which was noted for its Canary wine and the sparkling wit of its frequenters. See Beaumont's Episile to Jonson: Fuller's Worthies...; Athen. (Sept. 16, 1865). Merodach-Baladan (or Marduk) II.

(c. 722-709 B.C.), King of Babylon. Under this powerful prince the Babylonians, aided by the Elamite court, re-as

was of A

desti assassination, his successor, Senna-cherib, drove M. from the Babylonian

throne (705), Sec 2 Kings xx. 6.

Meroë (or Merawe), Isle of, a wide tract of S. (Upper) Nubla, ancient

I ancient M., are supposed bank, near ushia. The Shendi, 3 m. from Kabushia.

region now forms part of the Sudan. See Garstang, Meroë: First Season's Excavations, 1909-10, 1911. el), a lake of Palestine, mentioned in the O.T., most northerly of the series

nearly triangular in shape, 41 m. long by 3½ m. broad.

Meropidæ, see BEE-EATER.

Merovingians, or Merwings, the name of the first dynasty of Frankish kings in Gaul, who ruled after the fall of the Roman empire. The name is taken from Merwig, King of the Salian (western) Franks, who united a few tribes under his sway (448-57 His grandson, Clovis (481-A.D.). 511), extended the power of the dynasty, which flourished until 639, and finally gave place to the Car-olingians) about 751. udes sur l'époque méro-

Merrick, James (1720-69), an English divine, biblical critic, and poet, educated at Reading and Oxford. His works include: A Dissertation on Proverbs ix...; Prayers for a lime of Earthquakes and violent Floods. 1756: Poems on Sacred Subjects; Annotations on St. John's Gospel, ch. His metrical version of the Psalms deserves high praise. See Doddridge's Letters; Chambers's Biog. Dict.

Merrill, the cap. of Lincoln co., Wisconsin, U.S.A., on the Wisconsin, 92 m. from the head of Green Bay. There are tanneries, and lumber and sash mills. Pop. (1910) 8689.

Merrimac, see HAMPTON ROADS,

BATTLE OF.

Merrimack, or Merrimac, a river of S. New Hampshire, U.S.A., rising in the White Mts., flowing S. and E.N.E. through N. of Massachusetts to the Atlantic. Its many falls and rapids supply water-power for cotton-spinning, etc. It passes Concord, Man-chester, Lowell, Newburyport, and other large towns, and is navigable to Haverhill. Length 180 m. Merriman, Henry Seton (c. 1863-

1903), the pen-name of Hugh Stowell Scott, an English novelist. For some time an underwriter at Lloyd's, he (1889). adopted a literary career (1889), winning success with his Russian story The Sowers, 1896. Among his best known works are: In Kedar's Tents, 1897: Roden's Corner, 1898; The Isle of Unrest, 1899: The Veled Glove, 1901; The Vullures, 1902; Barlasch of the Guard, 1903; The Last Hopc, 1901.

Merry del Val, Cardinal Raphael (b. 1865), a Roman Catholic ecclesiastic of Spanish descent, born in London, and educated in England at Slough and Durham. He took orders (1888), became papal chamberlain (1892), prelate of the papal household (1897), and president the Assache Bartin and president of the Accademia Pontiflea (1899). For long Cameriere Partecipante for Pope Leo XIII., he was

bishop of Nicea in partibus, and Berlin and Paris. Called to the bar in archbishop of Nicesia (1900), consistorial secretary and pontifical secretary for the state (1903), and papal envoy at Queen Victoria's jubilee and King Edward VII.'s coronation. His father was secretary to the Spanish embassy. Court (1897-1909) and president of The Truth of the Papal Claims (1909) is his work.

Merse, or March, strictly a fertile dist. of S.E. Berwickshire, Scotland, the name being, however, commonly applied to the whole county. Formerly it denoted all the country between the Cheviots and Lammermuir

Hills.

Mersea, a well-wooded island of England, between the Colne Essex. and Blackwater estuaries, protected by a sea-wall. A causeway connects it with the mainland. It is noted for

oysters. Pop. about 1800.

Merseburg, atn. of Prussian Saxony, on the Saale, 9 m. S. of Halle. Its noted cathedral dates from the 11th It was once a favourite century. royal German residence, and contains a Gothic castle (15th century). The bishopric of M. existed from 968 down to the Reformation. Manufs. include machinery, leather, paper, toys, etc. Pop. 21,231.

Mers-el-Kebir (Sp. mazalquivir, great port), a fortified scaport of Algeria, N.W. coast, 5 m. N.W. of Oran, taken by the French (1830).

European population about 2600.
Mersenne, Marin (1588-1648), a
French philosopher, theologian, and
mathematician; studied at the College of La Flèche, where he met Descartes. whose views, as expounded in the Méditation, he championed through-out his life. Entered the Minim order of friars in 1611. Taught philosophy at the convent at Nevers. His chief works are the Questiones celeberrimæ in Genesim (1623; a commentary on chap. vi. of Genesis and an attack on Atheism); a philosophical and theo-logical refutation of the Deists (1624); miscellaneous dissertations on theophysics, logy, (1634) and mathematics (1634), wherein M. discusses the possibility of flying, the velocity of light, etc.; The Mechanics of Galileo discusses the

(1634); Harmonie Universelle (1636). Mersey, a river rising in N. Derbyshire, England, flows W. between Cheshire and Lancashire, passing Cheshire and Lancashire, passing Stockport and Warrington, out into Liverpool Channel or Harbour, an arm of the Irish Sca. Chief trib., the Irwell from Manchester. In spite of sandbanks the river is second only to the Thames in commercial importance. Near Irlam on the estuary it is joined by the Manchester Ship Canal.

Mersey, John Charles Bigham, Lord (b. 1840), an English judge, educated at Liverpool Institute, and also in

the Probate, Divorce, and Admiralty Division of the same court (1909-10). He has sat in parliament as a Con-servative (1895-97), and from 1904-8 was president of the Railway and Canal Commission. He was president in 1912 of the commission appointed to enquire into the circumstances attending the loss of the s.s. Titanic.

Mersina, a seaport in Asia Minor, 36 m. S.W. of Adana, with which it is connected by rail. Has an extensive trade, and exports wool, cotton, fruit, cereals, and timber. Pop. 9000.

Mertensia, a genus of hardy plants (order Boraginaceæ). M. maritima, smooth Gromwell or oyster plant, grows on the seashores in N. Britain.

grows on the seashores in N. Britain. Merthyr-Tydvil, or Tydili, a co. and parl. bor. and market tn. of Glamorganshire. S. Wales, on the Taff, 24 m. N.N.W. of Cardiff. It is the centre of the iron and steel industry of S. Wales, with large collicries adjacent. The ecclesiastical parish of Dowlais forms part of the borough (see Dowlas). Brewing and flannelweaving are minor industries. returns two members to the House of Commons. It was made a county borough in 1907. Pop. (1911) 80,999.

Merton, a vii, in Surrey and suburb of London, 8 m. S.W. of Westminster. Pop. (1911) 12,938.

Merton, Walter de (d. 1277), founder of Merton College, Oxford, in all probability born at Merton, Surrey. In 1261 he was made lord chancellor, and founded Merton, the first of our English colleges at Oxford (1264-74), when he became bishop of Rochester, and retained that see till his death three years later. See Hobhouse, Walter de Merton, 1859.

Merton College, Oxford, founded in 1263 by Walter de Merton (d. 1277), and the oldest college of its kind in The original endowment Oxford. was the income from the founder's house and estate at Malden, Surrey, which went to the support of Oxford scholars. Since its establishment the college has undergone various changes. A considerable part of the buildings dates from the 13th century, and are among the most interesting in Oxford.

Meru: 1. A tn. in the dept. of Oise, France, 15 m. S. of Beauvais, and 25 m. N.N.W. of Paris. Manufs. toys, chess pieces and boards, etc. Pop. 5500. 2. A mountain Masailand, German East Africa, lying 40 m. W.S.W. of Kilimanjaro.

and a surface crater.

Hindu mythology, Meru, in fabulous mountain, the abode of It is the most sacred of all Vishnu. mythical mountains, is supposed to stand at the centre of the world, and is 80,000 leagues high.

Merulidæ, a family of birds embracing the blackbirds, thrushes, dippers (Cinclus), orioles (Oriolus), pittas (Pitta), rock-thrushes (Pctro-cincla), and other dentirostral genera. Mr. Vigors places this family between the Laniade or shrikes, and the Sylviadæ or warblers.

Merulius, a genus of fungi. M. lacrymans is the destructive fungus which causes dry rot of timber.

Merv, or Meru, a tn. and oasis of Turkestan, in the Transcaspian prov., Russian Central Asia, situated on the Russian Central Asia, situated on the caravan road between Meshed and Bokhara, in the valley of the Murghab about 300 m. S.E. of Khiva. Over 1470 sq. m. of the oasis are under cultivation, yielding plentiful crops of millet, rice, wheat, barley, and cotton. The majority of the inhabitants are Tekke Turcomans, but many Armenian merchants have taken up their abode in the modern city. The old town was originally founded by old town was originally founded by Alexander the Great, but having been destroyed, it was rebuilt by Antiochus I., and received the name of Antiochia Margiana. The captive soldiers of Crassus were settled here by Orodes. In after times it was one of the four imperial cities of Khorasand many of the Persian monarchs made it their capital, but in 1786 it was taken and sacked by the Usbeks, a blow from the effects of which it has nover recovered. The surrounding country, which bears the name of Maroochak, is celebrated for its fruits, but the climate is very hot and dry. The ruins of the old town lie 18 m. N.E. of the present Russian city, which is fast becoming important owing to its strategic position. The country became Russian in 1883. Pop. of oasis 160,000; of tn. 9000.

Merville, a tn. in the dept. of Nord, France, at the junction of the Bourre Canal with the Lys. 8 m. S. of Hage-brouck and 20 m. W. of Lille. It is a well-built town and has important manufs. of damask, linen, and em-broideries; there are also salt re-fineries, breweries, and brick works.

Pop. 7600.

Merxem, a com. of Belgium, forming a N.E. suburb of Antwerp. Pop.

15,000.

Meryon, Charles (1821-68), a noted French etcher, born at Paris. His works are: 'Le Pont du Change,' 'Abside de Notre Dame,' 'La Vieille Morgue,' 'Stryge,' etc. See Wedmore

Has an altitude of about 15,500 ft. in Art Journal, 1881, and Burty's Monograph, 1879.

Merzig, a tn. in the Rhine prov., Prussia, 22 m. S. of Treves. Has an church and town ancient Manufs. woollens, terra-cotta, etc. Pop. 8340.

Mesaba Mountains, a range in St. Louis co., Minnesota, U.S.A., and one of the largest iron-producing districts of the world, with an annual output of about 12,000,000 tons.

Mesague, a tn. in the prov. of Lecce, Italy, 12 m. S.W. of Brindisi. Exports olive oil, fruit, wine, etc. Pop. 12,000.

Mesana, a tn. in Gujerat, India, 40 m. N. by W. of Ahmadabad. Pop.

10,000. Mesdag, Hendrik Wilhelm (1831-1905), a Dutch marine painter, born at Gröningen. He was a banker till 1867, when he took up art seriously and studied under Alma Tadema and Roclofs at the Hague. He set himself to convey the idea of immensity and boundless space in the sky and sea, representing water-mases and motions most successfully. His plotures include: 'Fishing Boats at Scheldt,' 'In Perli,' and numerous views of the North Sea, and are to be seen at the Luxembourg, Paris, and in the Hague museums.

Mesembryanthemum, or Fig Marigold, a genus of succulent plants with thick fleshy leaves and brilliant flowers. Some species are half-hardy in dry sunny positions. M. crystallinum, or ice plant, is a trailing annual bearing white flowers in summer and frosted leaves and stems. A number of species of herbaccous and shrubby habits are grown in the greenhouse.

Meseritz, a tn. in Posen, Prussia, 42 m. E. by S. of Küstrin. Pop. 5975.

Meshcheriaks, a race of E. Russia, numbering about 160,000, 125,000 of whom are Mohammedans. They are of Ugro-Finnish origin, and found in the governments of Orenburg, Ufa, Penza, Kazan, Ryazan, Vyatka, Tambov, and Saratov. They are closely allied to the Voguis and Bashkirs, and in many of the governments have adopted Russian religion, language, and customs.

ligion, language, and customs.
Meshed, Mushed, or Mash-had, a cap. of the prov. of Khorassan. N.E. Persia, 195 m. N.W. of Herat, Afghanistan. It is a walled city, situated in a fertile plain, and is famous for the magnificent mausoleum of the Imam Itiza, visited annually by pligrims. Manufs. include silks, velvets, carpets, shawls, veryled metals etc. Pop. about worked metals, etc. Pop. about 60,000.

Meshed Ali, or Nejef, a walled tn. of

and is a place of Shitte pilgrimage.

Mesitylene (1:3:5, or symmetrical trimethyl benzene, C₆H₃(CH₂)₂), an aromatic hydrocarbon found in small quantities in coal tar. It is best prepared by distilling acetone with sulphuric acid. M. is a colourless, mobile, pleasant smelling liquid boiling at 164.5° C. Treated with concentrated nitric acid it yields mono- and di-nitromesitylene, but with dilute nitric acid it yields acids by the successive oxidation of the methyl groups.

Mesmer, Franz (or Friedrich-Anton) (1733-1815), founded animal magnetism (q.v.), or mesmerism; graduated M.D. at Vienna in 1766. About 1772 he began, along with Father Hell, to investigate the curative powers of the magnet, and was led to adopt the opinion that there exists a power similar to magnetism which exercises an extraordinary influence on the human body. He published an account of his discovery in 1775. In 1778 he went to Paris, where his system obtained the support of members of the medical profession; but he refused two offers, one of an annual pension of 30,000 livres and the other of 340,000 livres, to reveal his secret, and this induced the government to appoint a commission, whose report was unfavourable. He now fell into disrepute, retired to Meersburg, and spent the rest of his life in obscurity.

Spent the rest of his hie in coscing.

See Life by Kerner, 1856.

Mesmerism, see HYPNOTISM.

Mesne (middle, intermediate):

Mesne profits, in law, the profits received by a tenant in possession duration. ing the period for which he has wrongfully kept the lessor out of possession. In actions for the recovery of land by a landlord against a tenant whose term has expired, or has been duly determined by a notice to quit, or determined by a notice to quit, or against persons claiming possession under such tenant, a claim for mesne profits may, by the rules of the Supreme Court, be joined on a specially endorsed writ under Order XIV. together with the liquidated claim for possession, the merit of the procedure under this order being that it is both summary and speedy, and the defendant, unless he has some and the defendant, unless he has some sort of defence, will only get leave to defend the action at all on terms, as, for example, by giving security.

Mesne process, in law, that part of the proceedings in a suit which intervenes between the original process or writ of the final issue, and which issues pending the suit on some collateral matter. It is sometimes used to denote the whole process which issues prior to actual execution.

Asiatic Turkey, in the vilayet of | lord who held land of a superior lord, Bagdad. It contains the tomb of Ali, | but who granted away a part of it to but who granted away a part of it to another person; in which case he was tenant to the superior, but lord or superior to his own grantee.

Mesopotamia, (Gk. Μεσοποταμός,

Mesopotamia, (Gk. Meconoranós, from nécos, middle, noranós, river), the land between the two rivers, i.e. The Euphrates on the W. and the Tigris on the E. The district to which the name is applied is rather loosely defined; it refers to the whole river country which stretches eastward from N. Strik to the mountainous tract of country dividing Persia from the steppes and plains at the head of the Persian Gulf. With others it includes the whole of the country once ruled by the Babylonian and Assyrian empires; strictly it may be confined to the district of the Turkish dominions in Asia which is known as El-Jezireh (Syriac Gazirtha, island) from Samosata (modern Samait) on the Euphrates to where that river approaches the Tigris above Bagdad at the point of the great wall, the so-called Median Wall, built like the called Mcdian Wall, built like the Chinese Wall, as a protection against the nomad tribes of the N. In this narrower significance, the northern portion is hill country (of the Taurus Mts.), with fertile plains and valleys, watered by the Belikh till its confluence with the Euphrates; then follows continued an undulation follows, southward, an undulating fertile plain with a distinct mountain chain, Sinjar, lying E. and W., and finally an arid steppe country reaching to the alluvial soil and the network of ancient canals and river system that formed the centre of ancient Babylonia. The northern The northern parts of M. are covered with the mounds which mark the sites of ancient towns still unexplored; the steppe-land is the home of the nomad Arab tribes, known as Shammar, who moved here from Central Arabia in the 16th century when the Ottoman Turks conquered the country. The building of the Bagdad Railway, and the irrigation scheme, under the direction of Sir William Willcocks, may do much for the country, though the disruption of the Turkish empire has prevented any real advance. A letter of an Egyptian lieutenant of Thothmes I. of Egypt speaks of Naharin in the late 16th century B.C., thus giving the earliest Semitic name of a district somewhere on the Euphrates or beyond. This name occurs again as the place whence came a wife for Isaac (Gen. xxiv. 10). Harran (Carrhæ) is closely connected with the early history of Abraham. teral matter. It is sometimes used denote the whole process which beyond these dates. We know from sues prior to actual execution.

Mesne lord, in the feudal system, a king, Zugal-zaggisi, spread his king.

dom through M. as far as the Mediter-1 ranean. How the Semitic invasions of the third millennium reached Babylonia is not certain. It is possible that one wave came down from the N. through M. and caused the earliest building of the so-called Median Wall. The N. Babylonian king, Sargon of Akkad (Agade), somewhere during the third millennium reduced M. in his relations with the W., and must have brought much cultivation and trade intercourse to the country. About this time, too, we hear of the Amurru (Amorites) of N. Syria.

It seems that in face of this immigration Khammurabi, or Hammurabi, the author of the great Babylonian code of laws, occupied M., and was suzerain in Asshur (Assyria), which now becomes prominent. Later the Amorites, evidently from N. Syria, gave way before a northern, probably Hittite, movement. About 1780 B.C. the Babylonians were invaded by the Kassites from Elam, the mountainous district on their eastern border, and northern their western and dominions, allowing also the rise of Assyria, whose chief city was at Assyria, whose chief city was at Calah (Nimrud), on the eastern border of M. Another state also comes into prominence—that of Mitanni, whose power extended to Assyria. It acted as a buffer-state between Egypt and Assyria, lying as it did across the north-western parts of M. and barring the way to the road through Palestine to Egypt. Through the long epoch of the rise of the Assyrian empire, with its periods of unquestioned supremacy, decline, and recovery, M. was at the mercy of the warring powers, its kings

II., the N. Syrian and Israelite princes. Colonies of Assyrians were then settled in M. In 729 B.c. Tiglath-pileser III. of Assyria was acknowledged supreme from Babylonia to the Mediterranean. Under his rule, his dominions were strictly organised, and a strong central government was established. He broke the Hittite power in North M. and in Armenia. The powerful empire of Esar-haddon, 680, crumbled before the irruption of the Medes who sacked Nineveh in 606. For the fall of the Median empire and the rise of Cyrus, see Pirsia. The establishment of the Scleucid kingdoms after the death of Alexander the Great brought many Greek settlements. Islam and the founding

empire to which it has since belonged. dates from 1516

Mesozoa, a group of lowly animal organisms intermediate between the Protozoa or unicellular organisms, and the Metazoa, or those of many-celled structures. The best known celled structures. The types are the family Dicyemidæ, which are ciliated thread-like organisms found parasitic in the kidneys of cuttlefish.

Mesozoic, a subdivision of geo-logical time, between the Palmozoic and the Cainozoic, and it includes the Triassic, Jurassic, and Cretaceous systems, which cover much of England, France, N. Germany, the Alps, and the western states of America. The M. ages appear to have been unbroken by volcanic eruptions, and in this respect as well as in their fauna and flora, differ from the Paleozolo ages. Cycads and conifers represented the early M. flora, and later, monocotyledons flourished. In the In the animal world great changes took place. Brachiopods diminished in number, as also did the Crinoids, while the Echinoderms, as represented by the Urchins, occupied a prominent position. The Ammonites were the typical M. cephalopoda, and the variety and abundance of reptilian life constitutes a remarkable feature of the life of the period. The first mammals made their appearance in marsupial forms during the M. lime, and the first species of bird, Archarpteryx macrura, has been found in the Jurassic rocks of Germany.

Mespilus, a genus of hardy deciduous trees (order Rosacem), usually incorporated with the genus Pyrus. Besides M. germanica, the Common Medlar (q.v.), M. smithii with large white flowers is sometimes grown.

ind Mess (O.Fr. mcs, modern mcts, dish). in its original meaning, a portion of food, or provision of food for a party for one meal. It was especially applied in early times to more or less liquid food, such as porridge, soup, or broth (cf. the biblical 'mess of pottage'). The term is now used of a company of persons who sit at meals together, especially of the members of an official or professional body. At one time the number in a M. was usually a small group of about four, scated at one table and sharing the same dishes. In the Inns of Court, parties of four benchers or four students are still common, but in the naval or mili-tary service the number in a M. is considerably larger, consisting of the parties into which a ship's company or a regiment is divided for meals. of the caliphate of Bagdad brought a Most ships in the British navy have new culture, and the final period, that the officers' or ward-room M., the of the Ottoman Turks and the injunior officers' M. and the warrant-corporation of M. in the Turkish officers' M. The admiral and the

captain usually take their meals 28, 27. He died about 3 B.C.-3. A.D. alone. Similarly in the army there are officers' and sergeants' Ms., and separate Ms. for the men. The M. is marian, and an orator; but none of generally managed by a committee of officers and supported by the joint subscriptions of members, supplemented by a small yearly allowance legies of the latter poet the name of the government. The rapk and M is continually introduced. Of M's from the government. The rank and file pay at a rate of under 3s. a week, and the officers more in proportion, receiving for this groceries, vegetables, crockery, etc., in addition to their free daily rations of bread and meat, at least two-thirds of which must be taken up by the men, while a money allowance may be granted instead of Marcus Valeria, the daughter of Marcus Valeria, the daughter of Marcus Valeria the Roman emperor, the M. fund. Officers are not to take up any fixed portion or rations if they prefer to ha money allowance. There is

newspapers, magazines, and washing. There are trained cooks, but one of the men is chosen each day to help in setting the table and serving the food and as general assistant. Breakfast, lunch, tea, and dinner are all served in the barracks. The M. bills are paid every month, but if extras, such as wine, beer, or cigars are desired from the canteen, they are paid for at the time. Married men are allowed to dine at home, and there are sometimes certain exemptions for others. The senior officer present is responsible for the disci-pline. Billiard, smoking, and read-ing rooms are often attached to the M.

has a voll as the 'common room' or dining-hall, kitchen, and cellars.

Messageries Maritimes, the chief passenger steamship line in France, with headquarters at Marseilles, and London offices at 97 Cannon Street, E.C. It possesses a fleet of sixty-five steamers, aggregating 293,669 tons. It trades with the Levant and Black Sea; carries mails to Italy, Egypt, Syria, Greece, India, China, and Spain, and includes a service to Australia, and S. America, and the S.E.

coast of Africa. Messala, or Messalla, the name of a

distinguished family of the Valeria gens at Rome. The first who bore the name of Messala was M. Valerius officers of the British government, Maximus Corvinus Messala, consul who are appointed or held in readi-

M. is continually introduced. Of M.'s many works—oratorical, historical, grammatical, and poetical—some of the titles alone remain. Yet a vague estimate of his literary merit may be formed from the testimonies of his contemporaries and successors.

her avarice, and the ich she perpetrated. itage of the weakness a small monthly subscription for and stupidity of the emperor, and newspapers, magazines, and wash- exercising an unbounded empire over him, she played the adulteress with-outrestraint, and unrelentingly caused all to be put to death who stood in the way of her unhallowed gratifications. The best blood of Rome flowed at her pleasure. Among her victims were the daughters of Germanicus and Drusus, Justus Catonius, M. Vincius, Valerius Asiaticus, and her con-federate Polybius. She went so far in vice as to offer her charms for sale like a common prostitute, and at last, during a temporary absence of the emperor at Ostia (48 A.D.), she pub-licly married one of her favourites, C. Silius, upon which Narcissus, one of the emperor's freedmen, represented to him that M. was aiming at his destruction, and received orders for her execution. She was put to death by Enodus, a tribune of the guards, in the gardens of Lucullus, 48 A.D. Her name has become a by-word for crime and lust.

Messapii, see APULIA. Messene, cap. of Messenia in Greece, founded by Epaminondas in 369 B.C. As it was erected as a check to the power of Sparta, it was made of great Pausanius describes it. strength. Now occupied by village of Mauromati.

to carry official despatches, both ome and abroad. They are emed under the secretaries of state.

essenia, a country of ancient M. Valerius Corvinus. He fought on Laconica, on the N. by Elis and the republican side at the battle of Arcadia, and was surrounded by the the western and southern sides.

pardoned by the separated from Laconica by came one of the ountain chain of Taygetus, and friends of Augustus. He was consul from Elis and Arcadia by the R. 31 B.C., and proconsul of Aquitania Neda and the high land which runs

Philippi (42 B.C.),

between the bed of the Neda and the sources of Pamisus. M. is described by Pausanias as the most fertile province in the Peloponnesus. The western part of M. is drained by the R. Pamisus, which rises in the mountains between Arcadia and M., and flows southward into the Messenian bay (Gulf of Koroni). The basin of the Pamisus is divided into two distinct parts. The upper part, usually called the plain of Steny-clerus, is of small extentand moderate for till the barres are the cierus, is of small extentand moderate fertility, but the lower part S. of Ithome is an extensive plain, celebrated in ancient times for its great fertility, whence it was frequently called Macaria, or the Blessed. The western part of M. is diversified by hills and valleys, but contains no high mountains. The chief toward of the mountains. The chief towns on the western coast were Pylos and Mothone, or Methone (Modon). The bay of Pylos (Navarino), which is pro-tected from the swell of the sea by the island of Sphacteria (Sphagia), is the best harbour in the Peloponnesus. The only town inland of any importance was Messene, at the foot of Mt. Ithome, on the summit of which was the citadel. The country is now a province of Greece, and produces fruit in abundance. Pop. 128,000.

Messenius, Johan (c. 1579-1636), a Swedish historian and dramatic author. The Emperor Rodolphe made him notal Constructions.

him poeta Casarcus, and he became professor of law at Upsala Univer-sity (1609). He was imprisoned (1616) on a charge of treasonable correspondence with the Jesuits. His chief historical work, Scandia Mustrata, was written in confinement. Other works were: Chronicon episcoporum per Sueciam ... (1611), and the

Lexicon öfver ramnkunnige Svenska

Män.

Messenius, Arnold Johan (1608-51), a son of Johan M., was historiographer to Christina of Sweden (1646), and ennobled (1647). Arnold and his son were executed for writing a libel on the royal family. See Anecdotes de Suède (the Hague), 1716. Messiah (Gk. Messias, Aram.

Měshīhā, anointed=Gk. Xpioros), a title applied to Jesus as fulfilling the long-continued hope of the Jews for a deliverer. The messianic idea was of comparatively late development among the Hebrews, and in its later form dates only from the Exile. Before this, the Messiah was regarded as purely human. See Drummond's Jewish Messiah. 1877; and Stanton's Jewish and Christian Messiah. 1886. See also Jews, and the article in Hastings' Dictionary of the Bible.

Messina, a city of Sicily, cap. of the prov. Messina, on the Strait of Messina, about 8 m. N.N.W. of Reggio. Formerly a beautiful and flourishing city, it was totally destroyed in 1908 by an earthquake, causing the loss of 96,000 lives, a total never exceeded since the Syrian earthquake of 526 AP. In which earthquake of 526 A.D., in which 120,000 persons perished. Its original name was Zancle (Záykhor or Záykhor, the Sicillan equivalent of the Greek Zpéraror). The harbour is one of the best in the world, and not being damaged by the carthquake, still carries on an extensive trade, the chief exports being oranges and lemons. Of the university only the law faculty has been reopened, but the valuable Greek MSS., which were in the library, have been saved, as well as some of the treasures of the museo. The cathedral, which dated back to the Norman period, was almost totally destroyed, but the statue of Don John of Austria, in the Corso Cavour, still remains. Before the earthquake, M. and the neigh-bouring villages had a population of bouring villages had a population of 167,000; it now stands at about 80,000. It has, however, been resolved to rebuild the town on its former site. M. was founded by pirates from Cume in the 8th century B.C. During the Punic wars it was a Roman naval station. In 1072 the Normans expelled the Saracens, who had held possession for over 250 years. A little over a century later M. belonged to the house of Hohenstaufen, under the Emperor Henry VI., and in 1282 it passed to Spain, who held possession until 1713. Great damage was done to the city in 1848, damage was done to the city in 1848, when it was taken by the Neapolitan troops, after a flerce bombardment of five days. The city was visited by a plague in 1743, when 40,000 people were carried off, and it has also suffered severely from earthquakes, the

fered severely from cartinquakes, the most disastrous occurring in 1908, which destroyed the city and involved a loss of 70,000 lives.

Messins, Antonello da, or Antonello d'Antonio (Degli Antony) (c. 1414-c. 1493), an Italian painter, a son of the architect and painter, Salvadore di Antonio. He is supposed to have learnt from Van Eyek the secret of registing in oils and to have intropainting in oils and to have intro-duced the art into Italy (c. 1460). His works include historical religious subjects and portraits. In San Gresubjects and portraits. In San Gregorio at Messina is his triptych of the
Virgin and Child, between St. Gregory
and St. Benedict (1473). The London
National Gallery contains his 'Salvator Mundi '(1465) and other works.
See Meyer, Kunstler-Lexikon; Lanzi,
History of Painting in Haly and Lives
of the Early Flemish Painters.

thum Fretum), separates Sicily from Italy, and has a length of 24 m. with a breadth varying from 2\frac{1}{2} m. to 12 m. Here are to be found the Scylla and Charpbdis of Greek mythology, the former a rock off the small town of Scylla, the latter a rapid or whirlpool in front of the harbour of M.

Messuage, a legal term signifying a dwelling-house and appurtenances, that is, the ground attached thereto.

Mestre, a tn. Italy in the prov. of Venice, situated on a lagoon 6 m. N.W. of the city of that name. Pop. 12,000. Meta, a river of Colombia, S.

America, which rises in the Sumapaz glacier, 40 m. S. of Bogota. It flows N.E. to the Orinoco, after a course of about 650 m.

Metabolism, the chemical changes of living matter, denotes the processes of growth (anabolism) and waste (ratabolism) in the protoplasmic material of the living cell. Thus it will be dealt with fully under PHYSIOLOGY. See also BIOLOGY.

Metallography, see METALLURGY. Metallurgy, regarded sometimes as a branch of applied chemistry, deals with the study of the processes of extracting metals from their ores, and their proparation in a suitable state for the various manufacturing processes. Only a few metals occur native, the majority being found in combination with other substances. An ore is any mineral substance containing enough metal to pay for extraction. The ores raised to the surface are usually mixed with gangue, or earthy materials, from surface which they are separated as much as possible by mechanical operations, such as crushing, sorting, washing, etc. Before smelting, some ores are further prepared by calcination

(simple heating) or roasting (heating in a current of air), when volatile

matter is driven off, carbonates are

calcination

are decomposed with of oxides and sulphat pared ore is smelted in lined with fire-resisting

with the 'gangue' or 'veinstuff' to form a slag which may be run off from the metal. For acid ores, i.e. ores having a siliceous gangue, limo, alumina, fluorspar, etc., are used as fluxes, while for basic ores, i.e. ores with a gangue containing lime or similar infusible substances, quartz, fluorspar, or der over the flures used. fluorspar, or clay are the fluxes used. The siag formed is 'acid' or 'basic,' according as it respectively contains excess of silica or of oxide. The smeltexcess of silica or of oxide. The smelting operation is a process of reduction,

Messina, Strait of (ancient Mamer-) the reducing agents, the chief of which are carbon, carbon monoxide. and sometimes metals. In some operations (e.g. copper and nickel smelting) the metal is first obtained as a sulphide, called a 'regulus' or 'matte,' which is subsequently partially oxidised and finally treated with unchanged sulphides, when the sulphur is removed and the metal obtained. The metals zinc and mercury being very volatile, are obtained by distillation, while arsenic is obtained by a process of sublimation. The term 'liquation' is applied to the removal of an easily fusible metal from a mixture of metals which do not alloy, or from a less easily fusible gaugue, by simple heating. 'Scorifi-cation' is the roasting of an alloy in order to remove the more easily oxidisable metal. The alloy, say lead and silver, is melted in an oxidising atmosphere. Litharge is formed as a slag on the surface and is removed, the operation proceeding until only the silver is left. 'Cupellation' is a similar operation, base metals being removed from gold and silver by oxidation and solution in oxide of lead. The operation is carried out on a hearth of absorbent material (bone ash), which absorbs the fused oxide but leaves the metal. Some mctals unite with mercury to form amalgams. Thus gold and silver are extracted from their ores by treating the crushed ore with mercury. This is the 'amalgamation' process, the metal being obtained from the amalgam by distilling off the mercury. Some metals, e.g. aluminium, are obtained from their ores by electrolytic methods, while others are extracted by the 'wet way,' as in the cyanide process for gold and the wet copper extraction process. For the various purposes in the arts, it is necessary to know the behaviour of the metal under stress of various kinds, i.e. whether or not it is decomposed to oxides, and sulphides kinds, i.e. whether or tenacious. The nd electrical con-

inute traces of imsuitable flux being used to combine purities influence these properties to with the 'gangue' or 'veinstuff' to a great extent. Thus the variations form a slag which may be run off from in wrought iron, cast iron, and steel the metal. For acid ores, i.e. ores can be ascribed to the variation in the amount of carbon up to 3 per cent. Then, again, the presence of a small quantity of nickel or tungsten in a steel makes it sufficiently hard to be used for armour plates. The influence of temperature in the working of the metals cannot be overlooked, and since the application of accurate methods of determining high furnace temperatures, a great advance has been made. Of recent date is the the oxide in combination with the been made. Of recent date is the metal being removed by the action of microscopic investigation of metals

at importance, and

and alloys, and the study has ex-sodium. (b) Thermal furnace with fused material.—Here the heat is tempera-

sing. ELECTRO - METALLURGY. - In widest sense, the term electrometallurgy includes the processes of electro-extraction, refining, and plating, and in dealing with the subject, the different sub-sections will be treated under special designations, electro-smelting, electrosuch as

plating, etc. Electro-smelting.—Electric smelt-ing furnaces used in metallurgical operations may be divided into three main types: viz. (1) Induction furnaces; (2) Resistance furnaces; (3)

Arc furnaces.

(1), The induction furnace is used for purposes of melting as distinct from smelting, i.e. for melting down mixtures of different metals rather than for extracting metals from their ores. The furnace consists of a large crucible in which the metal is heated out of contact with any electrodes, whereby oxidation is practically negligible, since there is no action of furnace gases. The Kiellin furnace furnace gases. The Kjelin turnace is of this type, and is used for making steel. It consists of a primary coil of insulated copper wire wound round an insulated core, to which is delivered a strong alternating current of 90 amperes at 3000 voits. An induced current of 3000 amperes and Tyolts is set up in the annular crucible or hearth of the furnace containing the steel and which forms the secondary. Any grade of steel can be produced from 0.1 to 0.5 per cent. or more of carbon.

(2) Resistance furnaces are of many types, and can be used as smelting or melting furnaces by a variation in the construction. The electrolytic furnace may be regarded as a modification of the resistance furnace, where, in addition to the heating effect of the current, there is also electrolysis. (a) Internal core furnace. -In this furnace is laid a continuous core of coke between two carbon electrodes, and around this core is placed the material to be heated. Carborundum is made by the use of this type of resistance furnace. Sand and finely broken coke are mixed with salt and sawdust and packed round the core, a current of 200 volts being used, which is gradually re-duced to 80 volts during some thirty Silicon carbide is formed around the core, which is converted into graphite. This type of furnace is also used for the production of graphite, and with modifications of the process, for carbon bisulphide and

valuable generated by the resistance of the furnace charge to the electric current. Of this type are the Héroult and Keller furnaces for the manufacture of steel. In the former, two large electrodes pass through the roof of the furnace on to a basic-lined hearth. An alternating current of 4000 amperes and 110 volts is used. and the intensity of the current passing through the bath is regulated by increasing or decreasing the width of the air-gap between the slag line and the electrodes. Phosphorus is produced on a large scale by the use of this class of furnace, by the heating of phosphoric acid and coke. Crude calcium phosphate mixed with sand may be used, when the phosphorus distils off through a flue and the lime and other bases are tapped off as slag. Of late years a considerable industry has been set up in the manufacture of calcium carbide. A mix-ture of lime and excess of coke dust is heated up in furnaces of the above type by an alternating current. Calcium carbide is formed according to the equation CaO+3C=CaC.+CO. (c) Electrolytic furnace. - In type of resistance furnace, the fused compound is electrolysed. A continuous current is employed and the metal is liberated at the negative pole. The preparation of aluminium is the most important application of this furnace. The furnace consists of a metal case lined with carbon or alumina, the latter for preference, having a large carbon positive pole inserted at the ton and an iron or inserted at the top and an iron or carbon plate at the bottom, which is connected to the negative pole of the dynamo. Molten cryolite is used in the bath and alumina is constantly added. The alumina is electrolysed, aluminium being run off periodically from the bottom of the bath, while oxygen is deposited on the carbon anode, which is thus gradually burnt away, forming carbon monoxide. A current of 5 or 7 volts is used and the action is continuous. Magnesium is now obtained in a similar manner by the electrolysis of carnallite, the natural double chloride of magnesium and potassium. Sodium and potassium are also made by electrolytic methods. (For the Castner process, see ELECTRO-CHEMISTRY.)

(3) Arc furnaces.—By the use of a small electric furnace, Moissan was successful in fusing such substances as lime and in preparing specimens of the more difficultly reducible metals, such as chromium, calcium, etc. By placing the material to be treated in a hollow tube of carbon at cyanides of potassium and right angles to the electrodes, he

made the furnace reverberatory, and surfaces to be welded are placed by a suitably disposed magnet the together and both are connected to electric are could be deflected on to the positive pole of a generator giving the material. The type of are furnace now used for melting steel is the Stassano furnace, which revolves round an axis inclined about 7° to the vertical, and is lined with magnesia brick. Three electrodes meet nearly in the centre of the furnace, their distance apart being regulated

similar type of furnace, the volatilised metal being condensed in suitable chambers. In all these furnaces, electric energy replaces the coal, coke, or gas required for heating. In countries where fuel is cheap, electric furnaces are not commercially employed owing to the increased cost of production. Where water-power is available (as at Niagara, nitrogen fixation plant), however, the electro-chemical industries can be pursued at a mini-

mum of cost.

Electric welding.—There are three principal processes of electric welding: (1) That in which the metal is heated by incandescence, as in the heated by incandescence, as in the Eilhu Thompson process. The two pleces to be united are connected with opposite poles of powerful current, and then brought into contact. Since the surfaces are uneven, contact only occurs at a few points, and the current (about 10,000 amperes a inch of sectional area at the per sq. inch of sectional area at the joint) is conducted through a restricted area. Hence these are raised to incandescence, Hence these parts becoming softened can be pressed The surrounding faces become superficially oxidised, and are thus covered by an inferior conductor, with the result that the whole mass is raised to the necessary welding temperature due to the added resistance in the path of the current. (2) The Burton liquid forge type, in which the metal to be heated is connected to the negative pole of a generator (current 110 volts), and is then plunged into a lead-lined vat clined floor (vats in terrace form), in (the lead connected with the posi- order to obtain a circulation of the tive pole) contains tive pole) containing acid or suitable salin

powerful current pass bath from the lead bath from the lead in the pure state upon immersed metal, which becomes covered with bubbles of hydrogen. It be cathode. The impurities fail to covered with hydrogen is so great turber for precious metals. This that the metal is rapidly raised to welding heat, and may be removed and welded in the usual way on the and welded in the usual way on the annual plate and is the purest copper known. The term 'electro-deposition' is the electric arc is used for heating. In the 'Bernados' process the the deposition of metals by means

together and both are connected to the positive pole of a generator giving a current of about 120 volts. The negative pole is a rod of carbon which, held by insulated tongs, is brought into contact with the sur-faces. On withdrawing the carbon an electric are about 2½ in. in length is formed, which, directed on to the surfaces, burns them together as in autogenous soldering. In the 'Tereiner' process the arc is deflected by the use of a powerful electro-magnet, the whole arrangement forming a kind of electric blowpine.

Electric annealing.—Annealing of hardened steel plates, such as Harveyised steel armour plates, is often necessary locally for riveting purposes. This is done by placing a couple of copper plates, one on each side of the plate, and sending a current between them and hence through the stretch of plate between. A current of 3000-6000 amperes at 4 volts is used, and thus a small patch of steel plate is raised to red-The current is then slowly reduced, and the plate slowly cooled, when the steel is found to be suffi-

ciently softened to be workable.

Electro refining.— In the short space allotted to this article it will not be possible to allude to more than one example, viz., the electrorefining of copper. The arrangement of the baths and the current volume employed varies for different refineries. The current generally used is from 10-15 amperes per sq. ft. The solution employed as electrolyte contains about 2 lbs. of copper sulphate and 4 to 10 ozs. of sulphuric acid in each gallon of water. The mode is of crude copper and the cathode plate is of pure sheet copper, which is first black-leaded to prevent the precipitated metal from sticking. The electrodes are placed about 1½ to 2 in. apart, and the baths are arranged generally on the multiple system, on an in-

solution, by siphoning, the current, the crude gradually dissolved and in the pure state upon.

The impurities fall to

of the electric currents, and includes, cyanide of the noble metal and electro-plating and electro-typing. will, Electro-deposition therefore, be briefly treated under these two heads.

Electro-plating is the term applied to the covering of base metals by thin films of a nobler metal for the thin films of a nobler metal for the sake of appearance or for a high lustre. For plating it is essential that perfect cleanliness be insisted upon, and special care be taken in the preparation of the electro-plating solution. Solution must also be kept moving in order to keep it of uniform density and strength. This is done by the use of paddles, by slowly moving electrodes, or by by slowly moving electrodes, or by allowing the solution to trickle through a series of vats arranged in

terrace form. For 'copper' plating a solution of copper sulphate, as described in 'Electro-refining,' is used. The The solution is contained generally in vats. lead-lined wooden With a current density of 10-15 amperes per sq. ft. a good reguline copper surface is obtained on the article forms the cathode. which For coppering metals such as iron, zinc, etc., which are strongly electropositive, the acid solution of copper sulphate cannot be used. The solution used must be alkaline, and may be made up by adding concentrated ammonia to copper sulphate solution until the precipitate formed just Potassium cyanide soludissolves. tion is then added until the solution is decolorised, and about half as much cyanide as was used added in The solution is then diluted about half, and may then be used for the metals named. When covered with a thin deposit, the work may be transferred after washing to ordinary acidulated bath to obtain a further deposit.

The deposition of copper on parts only of ornamental work is called 'parcel-coppering.' The ornamental parcel-coppering.' work is generally of brass. The brass is first cleaned in hot potash solution, after polishing, and then passed through solution of potassium The work designed to cyanide. escape deposition is painted with asphaltum or other varnish, and when dry is passed through nitric After swilling it is transferred to the coppering vat, and the current The; passed for about two hours. the vat, dried, the varnish removed is that formulated above, and the varnish removed is that formulated above, and the varnerment of the varnish removed by potash, and finished by the surface of the composition is freed from bubbles with a hot from control of the smooth surface is then the variety with plumbago. An impression

For electro-plating articles with dusted with plumbago. An impres-gold or silver, solutions of the double sion of the 'forme' in the wax is

potassium are used. Care must be taken in regard to the purity of the materials, and for 'parcel' work only the best copal varnish must be used for 'stopping off,' since asphaltum is affected by cyanide solutions.

'Nickel' deposits are of extreme value owing to the fine polish which can be imparted to it, and also because of its extreme durability. The solution used is neutral nickelammonium-sulphate (12 oz. to 1 gal. of water). The work to be plated must be scrupulously clean, and highly polished before entering the bath. 'Striking' is generally resorted to in order to start deposition, i.c. the surface is coated rapidly (using a fairly high potential difference of about 6 volts) in order to prevent exidation. This operation only obtains for a moment, otherwise the deposit becomes powdery. A current density of some 4 amperes per sq. ft. is then employed for three to five hours.

Electro-typing has for its object the production of the exact facsimile of any article having an irregular surface, such as an engraved plate, a forme of set-up type, a medal, statue, or bust. In all cases a statue, or bust. In all cases a reversed mould is first obtained, and upon this the copper is electrolytically deposited to the required thickness. The reversed cast is generally obtained by use of moulding materials such as gutta-percha, bees'-wax, sealing-wax, etc. copying engraved steel plates, etc., a mixture of the following composition is used: Bees'-wax, Venice stition is used: Bees' wax, Venice turpontine, and plumbago in the proportions of 85, 13, and 2 parts respectively by weight. The method preparing and electro-typing of the state of th bevel so that a better impression is given to the wax. All spaces between the letters should be 'type high,' as should also wood blocks, if present. If these are low the forme is floated or filled in with plaster of Paris. The surface of the forme is then thoroughly cleaned with potash solution, followed by water or benzine, and when dry, is blackleaded carefully. The waz

trical connection is made by embedtrical connection is made by embedding a framework of warm copper-wire round the wax edge of the mould, and then blackleading the surface of the wire. The mould is finally prepared for the bath by wetting the blacklead with spirits of wine, and then washing with a high pressure rose-jet of water, and all air bubbles removed. It is then placed in the depositing bath, and a current of increased E.M.F. ema current of increased E.M.F. employed at first to obtain a rapid deposition of copper. When the whole surface of the mould is covered the current potential is reduced. The metal is then deposited evenly over the plate until a thickness of the in. up to the in. is obtained. This takes from four to six hours. The metal shell so formed is released metal shell so formed is released from the wax by flooding the back with hot water. Any wax which still adheres is removed by potash solution, and the shell is then swilled and dried. It is then backed, using sal-ammoniae as a flux, with a 'backing metal' at 600° F. (The backing metal is generally 91 per cent. lead, 5 per cent. antimony, and 4 per cent. tin.) After cooling, the electro is levelled by tapping with a polished hammer, the excess of backing metal is shaved off, made perfectly straight and of the required thickness. After finally bevelling at the edges it is mounted on wood, the edges it is mounted on wood, type-high. See also Electro-CHEMISTRY, and works: McMillan's the following Electro-Metallurgy (1889); Kershaw's Electro-Metallurgy (1906); Roberts-Austen's Introduction to Metallurgy (1910); Borcher's and Medillan's Electric Smelting and Refining (1904); Huntingdon's Metals, etc.

tingdon's Metals, etc.
Metals, By reason of certain properties, mainly physical, which are common to a large number of the clements and more or less absent in others, the elements are divided into two classes—metals and non-metals. From earliest days M. have been distinguished from all other been distinguished from all other substances by their peculiar proper-ties, and applied to useful purposes. In the earliest history we have records of the use of the seven M., gold, silver,

then made by means of either a good conductors of heat and elechydraulic or toggle press. When the impression has been made, excess of wax is cut away, and the 'forme' hydrogen, phosphorus, etc., non-M. is raised from the wax vertically. All M., except mercury, are solid, The impression is then carefully and most of them will crystallise. Trimmed with building tools, and In the processes of electro-chemical deposition (see Electrolysis) M. act deposition (see ELECTROLYSIS) M. act like hydrogen, and are always set free at the cathode. The non-M., on the other hand, may be either gases, liquids, or solids, possessing little tenacity. They do not give the peculiar metallic lustre, and are had heat and electricity conductors. Their specific gravity varies from being lower than that of water, e.g. potassium, to being more than twenty times heavier, e.g. platinum. Similarly, while some, e.g. sodium, are larly, while some, e.g. sodium, are very soft, most of them are hard. Some, like antimony, are quite while others, brittle, like iron. possess great tenacity. The two classes of M. and non-M. merge into one another, and certain elements are placed sometimes in one class and sometimes in the other, according as the distinction is based on physical or chemical properties. Arsenic, for example, possesses many of the physical properties of a M., but in its chemical reactions it is more nearly allied to the non-M. Such elements as these are known as metalloids. The chief chemical properties of M. include their strong affinity for certain nonmetallic elements, e.g. sulphur, chlorine, and oxygen, with which they form sulphides, chlorides and oxides. The metallic oxides are solid white or coloured bodies with an earthy appearance, and it is only such metallic oxides which give rise to hydroxides when united with water. Such oxides are known as basic or salt forming. oxides. The lower oxides form salts (q.v.) in combination with the oxyacids. M. will, when fused, enter into combination with each other, forming alloys (q.v.). Because of their strong affinity for other elements, M. are generally found combined with other elements, and consequently they have to be extracted from their they have to be extracted from their ores by processes described under METALLURGY. The M. may be classified into (1) Lught METALS: (a) alkali metals, e.g. potassium; (b) alkaline earth metals, e.g. calcium; (c) earthy metals, e.g. aluminium; and (2) HEAVY METALS: (a) metals whose oxides form strong bases, e.g. iron; (b) those whose oxides form weak bases or acide e.g. allagion and (c) noble or acids, e.g. arsenic; and (c) noble metals, e.g. gold. Another method of classification adopted more generally of the use of the seven al., gold, saver, means, e.g. gold.

lead, copper, iron, tin, and mercury. classification adopted more generally leads to the means of th

sodium, and lithium; (2) the alkaline earths, calcium, strontium, barium; (3) the magnesium group, beryllium, magnesium, zinc, cadmium, mercury; (4) the aluminium group, aluminium, gallium, iridium, thallium, and the gadolinite earths (didymium, yttrium lanthanum, erbium, scandium); (5) the noble metals, copper, silver, and gold, and the platinum M. (ruthenlum, rhodium, palladium, osmium, iridium, and platinum); (6) the iron group, iron, cobalt, and nickel; (7) manganese; (8) the chromium group, chromium, molybdenum, tungsten, and uranium; (9) the lin group, ger-manium, tin, lead, and titanium, zirconium, cerium, and thorium; zirconium, cerium, and thorium; and (10) the arsenic group, arsenic, antimony, bismuth, an yanadium niobium, and tantalum. See list of words cited under CHEMISTRY. also ATOMIC THEORY, ELEMENTS, and ALLOYS.

Metamorphism. Both aqueous and igneous rocks after their original

Rocks slightly heat, and pressure. modified, and which rotain most of their original features, are called 'altered rocks,' while those whose original characteristics have been wholly disguised or obliterated are designated 'metamorphic rocks.' The M, of sedimentary rocks by water is illustrated by the formation of glassy quartzite from loose sandstones by silica deposited in the interstices from percolating waters. The effect of heat in modifying the physical characters of stratified deposits is to be observed around the margins of intruded dykes, sills, and bosses. Thus clays and shales are baked to porcellanite and lydian-stones, sandstones are changed to quartzites, and limestones are mar-Around granite bosses an 'aurcole' of 'contact metamorphism' can be seen. In the surrounding rocks new minerals are developed, such as chiastolite, mica, and garnet, and the M. decreases in intensity, zone by zone, as we pass outwards from the margin of the boss. The aureoles of the granite bosses of Galloway are 2 m. in breadth, and show a gradagreywackes tion unaltered from through schists fine - grained to gneisses. Where wide regions have that appeal to the primary emotions been subjected to pressure and crushing by crust-creep (dynamo-metamorphism), we have areas of regional M. The original structural The original structural gional 'M. features are often obliterated and new structures developed, such as when argillaceous rocks are contorted and cleaved into slates. The action of

would be divided into: (1) The al-crust-creep on strata of alternately kalies, potassium, rubidium, casium, soft and hard bands gives rise to crush-breccias and crush-conclomerates. The pre-Cambrian fundamental gneisses and schists were held to be original deposits from a primeval ocean. It is now, however, generally admitted that the schistose structures of these foliated rocks are not of necessity primary, but may be secondary structures due to deformation. majority of the foliated rocks in areas of regional M. appear to be of pre-Cambrian age, but many have re-ceived their foliated structures in post-Archæan times.

Many types of Metamorphosis. animal life undergo change of structure and form in the course of their The most familiar inlife history. The most familiar instances of M. are the Insectivora, in whic' teristic. The es from the c rowth turns which later the perfect insect emerges. liver fluke passes through seven distinct stages, more than one of which have the power of reproduction. The first stage of the cel was long regarded as a distinct species, as, too, was the Axolotl, which under certain conditions changes to a terrestrial salamander, Amblystoma. Though com-mon in most of the lower forms of animal life and in the amphibians, so far as vertebrates are concerned, M.

is unknown in birds and mammals. Metaphor (Gk. μεταφορά, from μεταφέρειν, to carry over), a figure of speech by which an attribute or name is given to an object which is not literally applicable to it, e.g. in Lamb's Essays of Elia the phrase, a healthy book, occurs, or again a ship is frequently spoken of as ploughing the waves. Thus a M. is really a comparison implied but not formally expressed, and in this it differs from the simile, which is a formal comparison.

Metaphysical Poets. The title M. P. was given by Dryden to that school of poetry of which Donne was the founder and most illustrious example. and Cowley the next best known follower. The fault of this school is the vain attempt to use lyric poetry as a vehicle for the expression of all manner of subjective or reflective ideas, and hence to subordinate to subtlety of thought and reasoning

Metaphysics, a name originally

legitimate : futility of applied to those books of Aristotle kind, but tills the soil for the land-which followed his *Physics*, and which owner on condition of receiving half his editors called the book after the themee the name from Low Lat.

Therefore the deprivation in the turn derived from physics" (μετὰ τὰ φυσικά). It times the word has been applied. With the German. ...

science purely speculative, and the two-thirds) uncreof; while the land-objects of this science are super-lord furnishes the whole or part of the sensual ideas, unattainable by ex-stock, tools, and implements of hussensual meas, unattantially of a local, each, thus a form of partner-science beyond experience has been ship, in which the landowner plays denied by numerous philosophers, and the part of a dormant or sleeping many works called metaphysical partner, but whether it is really so many works called metaphysical should rather be termed inquiries into the possibility of M. Thus Kant's celebrated work, the Critik der reinen Fernunft, is a mere inquiry into the possibility of a theoretical science of things beyond experience, which terminates with a denial of such possibility, and hence some modern philosophers have considered Kant as no metaphysician, but as a critic of the mental faculties, whose labours were to be the precursors of a new system of speculation. Those who deny the possibility of M. deny even the right to assume any axioms as applicable to a sphere beyond experience; and those who did assume them, as Spinoza, Leibnitz, and Wolf, were called by the Kantians dogmatists, in opposition to their own appellation of critics. In England, the word M. is usually applied to denote the philo-sophy of mind. This science treats of the association of ideas, memory, and various phenomena of mind. Metastasio (originally

Trapassi), Pietro Antonio Domenico Bonaventura (1698-1782), became court-poet in Vienna under Charles VI. in 1730. He is famous as a librettist through his association with Mozart (q.v.), who composed La Clemenza di Tilo to a 'book' by M. Other composers who availed themselves of his writings warm Heradel Decrease. Soughtist were Handel, Porpora, Scarlatti, Paër, Hasse, Gluck, Reissiger, Jom-melli, Spontini, and Cimarosa. M.'s poetry was fluent and rich rather than dramatic; and the absence of strong climax would have been fatal in an age whose composers studied declamation and prosody, apart from the higher ideals of opera. His chief efforts were: Didone abbandonala, Catone in Utica, Ezio, and La Clemenza di Tito. Olimpiade,

Metauro, a riv. of Central Italy, nich rises in the Apennines and which rises in the Apennines and flowing N.E. enters the Adriatic Sea, 10 m. S.E. of Pesaro. Length, 68 m.

Metayer System, a system of land cultivation in vogue, principally in France and Italy, which has been evolved mainly by compulsion of

in its turn derived from

its produce or some advantageous a system to the active partner or cultivator as that of a true peasant proprietorship-to which it is in some ways analogous—depends on the force of custom to guarantee its permanence. A true peasant proprietor has the strongest of incentives to make his holding a success; but the quasi-partnership of metayage can, strictly speaking, be dissolved at will by the landowner, or, what amounts to the same thing, be rendered impracticable by a perfectly legal augmentation of demands on the part of the dormant partner. On the other hand, as Mill points out, local usage is almost everywhere too strong to allow a landowner to increase his demands beyond those of his neighbours, and indeed, that very constancy of the basis of division of profits results in the elimination of competition among the cultivators. For a high appreciation of the merits of the system consult Mill's Principles of Political Economy, ch. viii., and Sismondi's New Principles of Political

Economy, Bk. iii.
Metazoa. The animal kingdom is broadly divided into two main sections, the Protozoa and the M. former are typically unicellular, though they in many cases exist in colonies; Ms. are multicellular, and include all the higher forms of animal life. The place of sponges in this classification was long disputed. They are now considered to be definitely

Metazoic.

Metchnikov, Elias (b. 1845), a Rus-in bacteriologist, born in the bacteriologist, born in the cov gov. In 1870 he was apsian Kharkov gov. pointed professor of zoology Odessa, and later he became director or one ouessa pacteriological institute. He went to Paris in 1890 and studied under Pasteur, and four years later became professor at the Pasteur Institute, Paris. He is a member of the Assertance of the Assert of the Odessa bacteriological institute. the Académie de Médecine, foreign member of the Royal Society of London, and of the Académie des Sciences, France and Italy, which has been advanted the Nobel evolved mainly by compulsion of Prize for medicine. His views are excircumstances as a result of the decay pounded in his Immunity in Info feudal serfdom. Under this system fectious Diseases (Eng. translation the peasant landholder or cultivator 1906). His other publications include: pays no fixed rent either in money or The Prolongation of Human Life; The

Metellus, a distinguished plebelan family of the Cacilia gens at Rome:

L. Cacilius Metellus, consul 251
B.C., when he defeated the Carthaginians in Sicily at Panormus; consul a second time in 249; and afterwards pontifex maximus; while holding the latter dignity he rescued the Palladium when the temple of Yesta was on fire, and lost his sight in consequence.

Q. Cacilius Metellus Macedonicus. When he was practor (148 B.c.) he was sent into Macedonia against Andris-cus, who pretended to be a son of Perseus, and defeated and took him prisoner. In 146 s.c. he defeated the Acheans near Thermopylee, and on his return to Rome obtained a triumph and the surname Macedonicus for his conquest of Macedonia. Metellus, in his consulship (143 B.C.), was sent into Spain, where he remained two years, and gained several victories; but was succeeded in the command before the conclusion of the war by Q. Pompeius. Pliny cites Metellus as an extraordinary example of human happiness. 'For besides the possession of the highest dig-nities,' says Pliny, 'and having ob-tained a surname from the conquest of Macedonia, he was carried to the funeral pile by four sons, of whom one had been pretor, three had been consuls, two had enjoyed a triumph, and one had been censor' (Hist. Nal., vli. 45).

Q. Cacilius Metellus Numidicus, consul 109 B.C., carried on the war against Jugurtha in Numidia with great success, and received in consequence the surname of Numidicus. In 107 he was superseded in the command by Marius. In 102 he was cen-sor, during which office he expelled Servilius Glaucia and Appuleius Saturninus from the senate, and two years afterwards (100) he was banished from Rome through the in-trigues of his enemies Marius and Saturninus, who had returned to the senate. He was, however, recalled in the following year (99), but was pro-bably poisoned shortly after his re-turn. Metellus was one of the chief leaders of the aristocratical party, and a man of unsullied character.

Cacilius Metellus Pius, son of the preceding, received the surname of Plus on account of the love which he displayed for his father when he be-sought the people to recall him from banishment in 99. He was practor 89 B.C., and one of the commanders in the Marsic or Social War. He subsequently fought as one of Sulla's work, revolves once in about eight generals against the Marian party, hours. Made of aluminium and co-

Nature of Man; Optimistic Essays, and was consul with Sulla himself in Adure of stati, Optimized Lassages, Scorpions, So B.C. In the following year (79), Centinedes. Snonges, Worms, etc. he went as proconsul into Spain, where he carried on the war against Sertorius for many years (79-72 B.c.). From the year 76 B.C. Pompeius was his colleague, and they triumphed together at the end of the war. Metellus was pontifex maximus, and on his death (63 B.c.) he was succeeded in that dignity by Julius Casar.

Q. Cacilius Metellus Pius Scipio was the son of P. Scipio Nasica, prætor 94. Pompey married Cornella. the daughter of Metellus Scipio, in 52 B.C., and in the same year made his father-in-law his colleague in the nis lather-in-law his colleague in the consulship. Scipio fought on the side of Pompey in the Civil War, and after the battle of Pharsalia, crossed over to Africa, where he received the command of the Pompelan troops. He was defeated by Cæsar at the battle of Thapsus in 46; and shortly afterwards he put an end to his own life.

O. Carilius Meellus Certicus con-

Q. Cacilius Metellus Creticus, consul 69 B.C., carried on war against Crete, which he subdued in the course

of three years.

L. Cæcilius Metellus, brother of the last, praetor 71 B.C., and as proprietor the successor of Verres in the govern-

ment of Sicily. Quintus Cacilius Metellus Celer was

practor in 63 B.C., when he commanded three legions in the war against Catiline, whom he prevented from crossing the Apennines and so crossing into Gaul. He became control in the comment of the comment sul in 60 B.c., in which capacity he opposed Pompey and the aristocratic party, especially in the matter of the Agrarian laws. He died in 59 B.C.

Metempsychosis, see TRANSMIGRA-

Meteoritic Hypothesis. Sir N. Lock-yer, in a work entitled The Meleoritic Hypothesis, 1890, has endeavoured to show that nobulæ are composed of sparsely aggregated swarms of meteorites, and that stellar systems are evolved from them. The light emitted by nebulæ is assigned to the collision of the meteorites with one another, the aggregate result of many collisions affording a constant emana; tion of light. The theory being based on spectroscopic evidence, it remains to be explained why the spectra of these nebulæ never show metals, but only hydrogen, helium, and nebullum.

Meteorograph, an instrument which gives a continuous record of the iluctuations in the temperature, pressure, and humidity of the atmosphere. The instrument consists of a combined thermograph, barograph, and hydrograph, and lines are plotted on a cylinder which, driven by clock

closed in a cage, the whole apparatus astronomical as well as to atmosonly weighs about 30 to 40 ozs., and objected phenomena. Although the Is attached, for use, about 60 ft. below a k ord matically studied since the time of the low a k preatvailing

mosphere is obtained Meteorological Office, The, deals with the meteorology of the British Isles, and also of some of the colonies and dependencies. It issues forecasts of weather from the London office, which are based on telegraphic information obtained from about sixty stations in the British Isles, on the continent, and some islands in the Atlantic. First established in 1854 under the Board of Trade, it is now

under the Board of Fraue, as a counter a director and committee appointed by the treasury, and receives a parliamentary vote of £15,300.

Meteorological Society. The first English society was founded in 1823 and was followed by the Meteorological Society of London which existed from 1836-42. The British Meteoro-logical Society was initiated in 1850, and assumed its present designation as Royal Meteorological Society in 1882. Observations are made at numerous stations in the British Isles, and the statistical data obtained are published in the Meteorological Record. Other publications of the society are y Journal.

tre of three in which extensive meteorological observations are made, either by self-recording in-struments or by hourly readings; (2) Stations where complete regular observations of climatic elements are conducted; (3) stations where only a portion of these elements are observed. There are about 160 stations of the second order in Great Britain, where observations are made of the apparent paint of twice a day, viz. 9 a.m. and 9 p.m. changes. The apparent paint of twice a day, viz. 9 a.m. and 9 p.m. changes. The apparent paint of the sky describes a circle, the farm that an angle of 23 f. These are the other in two enclosed in a

shine recorder, an anemometer, and a rain gauge. A considerable number of stations in the British Isles observe of stations in the British Isles observed equator on March 21, when he is going only once a day, while about 4000 places are provided with rain gauges. In Russia, stations of the second June 21. On Sept. 22 he appears on order take observations three times the equator when going southwards, a day, at 7 a.m., 1 p.m., and 9 p.m., and attains his greatest southwards, a day, at 7 a.m., 2 p.m., and equator when going southwards, and attains his greatest so

matically studied since the time of Aristotle, who wrote the first treatise on it, little progress was made until the invention of the barometer and thermometer. Galileo invented the thermometer in 1592, and his pupil, Torricelli, in 1643 discovered the principle of the barometer. The mercurial thermometer was introduced by Fahrenheit in 1714, and more accurate observations could then be made. M. may be considered from three points of view: (1) The com-parison of systematic observations taken at various stations leads to deductions regarding the relative fitness of different countries for the support of animal and vegetable life. From this point of view, the domain of medical climatology, the subject has been most studied. (2) Of late years, owing to the development of telegraphy, the subject has been telegraphy, the subject has been treated as the science of the weather. From observations of the temperature, pressure, direction, and motion of the wind, etc., taken at a number of stations, meteorologists are able to forecast for a few hours the course of the weather. (3) In the investiga-tion of the physical conditions of the atmosphere and their relations to the forces of light, heat, electricity, and magnetism, we have the highest object of M., considered as a department of cosmical physics. There are two main groups of meteorological phenomena: (1) Those produced by the diurnal rotation of the earth on its axis, and (2) those which depend on the revolution of the earth round the sun, i.e. seasonal changes. It is, however, the apparent motion of the sun which exerts the greatest in-

intersect each other in two points diametrically opposite each other. The sun appears on the equator on March 21, when he is going

about 20,000 stations.

Meteorology, the science of the the earth. The sun's heat-rays come atmosphere. The term was first used to us in straight lines and strike on by Plato, and had reference to the hemisphere which faces the sun.

trated upon an area which varies with the sine of the sun's altitude at the moment, this variability in-creasing with the distance from the equator. Again, in the passage of the sun's rays through the atmosphere, the loss of heat by absorption is more than 20 per cent. on a vertical and almost all on a nearly horizontal beam, i.e. at the poles, where the solar beams are almost horizontal, nearly all the solar heat is intercepted by the dense, lower strata of the atmosphere. On the whole, about one quarter of the heat which reaches the outer limit of the atmosphere is lost before it reaches sea-level. The converse to solar radiation is the terrestrial radiation. The escape of heat from the earth into space is affected by the latitude, and also by the nature of the covering with which the earth is provided. The great the earth is provided. The great secondary agencies, which modify the effect of the sun's heat, are the ocean currents and the prevailing As an example, we may cite the effect of the Gulf Stream on the climate of N.W. Europe. This stream, flowing from the Gulf of Mexico into the Atlantic, makes its influence felt even within the Arctic Circle by keeping the harbour of Hammerfest in 71° N. open in the depth of winter. The rigorous climate of Labrador, more than 20° farther S., is due to the American Arctic current which skirts the coast. In the Pacific, the Kuro-Siwo warm current of the Japanese coast has the effect of freeing the shores of Alaska and British Columbia from ice in winter. The prevailing W. winds of our own country bring warmth and moisture from the sea in winter, and carry the benefits of the nearness to the sea to the inland portions of the British Isles. The conwhich affect climate fairly simple in the tropics, but in Europe are most intricate. There is no regularity in the distribution of rainfall, etc., over Europe, but in the tropics there exist the 'wet' and dry 'seasons. The permanent winds are the 'trades' and 'anti-trades. The former blow more or less steadily in a N.E. or S.E. d' to the hemispheres. are westerly winds,

The heating power of any cylindrical S.E. trade blows to the equator, and beam on any horizontal portion of crossing to the N. of it becomes the the earth's surface, will be concensive. S.W. monsoon, with rain. In both S.W. monsoon, with rain. In both cases it is the wind blowing from the equator which brings the rain, hence, in India, the time of the N.W. mon-soon is a dry period, while the wet season is the period of the S.W.

mousoon. Diurnal phenomena.—If we ex-continuous temperature amine a curve, we observe that there is a gradual rise of temperature during the forenoon, culminating in a maximum, and then a regular fall. course of the curve varies from day to day, the variation being greatest in summer, while cloudy days show little variation of the curve. The diurnal range of temperature is generally small at coast stations owing to the large amount of water vapour in the air, while the range is usually greatest in elevated inland districts where the atmosphere is dry. A curve of the diurnal range of temperature averaged over twenty years at Greenwich shows a gradual rise of temperature up to a maximum at 2 p.m., and then a decrease to a minimum at 4 a.m. The curve of diurnal variation of the barometer is of less importance than the corresponding curve for the thermometer. The changes in pressure in the British Isles averages about '02 in. In the Torrid zone, however, the curves of daily variation are a striking feature. The ordinary type of curve exhibits two maxima which occur at about 9 a.m. and 9 p.m., and two minima at about 3 a.m. and 3 p.m. The difference between the extreme oscillations is called the diurnal range, which is generally over to in. In the tropics (116 in. at Calcutta) but is far less in high latitudes (012 St. Petersburg). In Europe the results of hourly records of the rainfall show three maxima and three minima in twenty-four hours, the absolute maximum occurring at about 2 or 3 o'clock in the afternoon. The diurnal period of the wind in regard to its velocity is similar to that of the temperature, reaching a minimum about sunrise and a maximum in the afternoon between noon and 2 p.m.
The physical cause of rain is the
of warm air which is charged
olsture. This may be accom-

by contact with the cold surnemisphere. The most important of the periodical winds are the 'mon' tion of rain over any country is soons.' From October to April the N.E. trade blows down to the equator with clear weather, crosses the line, and blows as the N.W. monsoon, bringing sultry weather with torrents are connected with the phenomena of rain. From April to October the of sun-spots which show a cycle of that period.

Magazine.

Meteors, or Shooting Stars, consist of small portions of matter which, on entering the earth's atmosphere from outer space, become incandescent owing to friction caused by their high velocity (sometimes reaching 40 m. a second). Some of these small bodies are found after their fall and may weigh a few pounds, but more usually M. are entirely dissipated into a fine dust. Those which survive complete disruption are found to contain iron, nickel, carbon, and other known terrestrial elements. On any clear night after appear to come f quarter of the sky.

known as the rac periodicity of me due to the fact th ticles of matter w subject to the i

gravitation and revolve round the products. sun in elliptical orbits in the same manner as do the planets. Whenever, therefore, the earth in its revolution intersects the orbit of the meteoric stream, there must occur a display of shooting stars, and as it occasion-ally happens that the carth passes through the nucleus of the stream, display is then exceedingly brilliant. Chief among such periodic brilliant displays are the Leonids which occur about every thirty-three years on Nov. 13 or 14 (the last in 1899), though at that date every year a considerable number of M. are Other important to be met with. meteoric systems are the Andromeids. in August, and the Perseids. seems to be much evidence that comets are made up of a loose collection of M. which have been reduced to a gaseous condition owing to their

near approach to the sun.

Metford, William Ellis (1824-99),
an English inventor, born at Taunton, Somerset, and Sherborne School. Ar educated Sherborne School. Apprenticed to a civil engineer, in 1856 he was elected an associate of the Institution of Civil Engineers. He was greatly interested in rifle shooting, and invented a hollow-based bullet for the Edinburgh rifle, expanding minus a plug, and in 1888 produced the Lee-Metford rifle, in conjunction with the American Lee.

See text-books on simplest hydrocarbon of the paraffin smiplest hydrocardon of the paramin series. It is produced in nature by the decay of vegetable matter under water, and thus rises in bubbles from marshes and swamps. It also occurs in the natural gas of petroleum districts, is set free from fissures in coal as 'fire damp,' and is one of the chief constituents of coal gas. It is prepared by heating a mixture of sodium acctate and soda lime, according to the equation: $C_2H_3O_2Na+NaOH = CH_4 + Na_2CO_2$. M. is a colourless, tasteless gas, which is liquefied at -11° C. under a pressure of 180 atmospheres. It burns with a pale blue flame and forms a highly explosive mixture with certain proportions of air or oxygen, the explosions in coal mines being largely due to the ignition of such a mixture. It is almost insoluble in water, more a few minutes' watching, the obsoluble in alcohol, and is a very server will see a shooting star, but at stable gas, resisting the action of a certain times in the year a large large number of reagents. When number of M. may be observed which mixed with chlorine in the dark, an surs, but on exposure to

in explosion occurs and leposited. In diffused sunexplosion occurs, but the atoms are displaced by quantities of chlorine, formation of substitution

products.

Methil, a scaport of W. Fifeshire, Scotland, on the N. shore of the Firth of Forth, and 1 m. S.W. of Leven. A new dock was opened in 1911. Pop. (1911) 11,000.

Methley, a tn. in Yorkshire, England, 7 m. S.E. of Leeds. Has coal mines near. Pop. (1911) 4330.

Methodism (Gk. µ£6060s, rule), a term applied to a religious organisation which owes its origin to John and Charles Wesley. The name 'Methodists' was given to certain Oxford students who, with the Oxford students who, with the brothers Wesley, met together at fixed times to acquire regular habits of religious study and prayer. When John Wesley left Oxford he gave up his life to spread Scriptural holiness over the land. He and his fellow evangelists were repudiated by the Church of England, and not being able to preach in Anglican churches, they adopted the plan of preaching in the open air. As the numbers of his followers increased, Wesley organised them into 'societies,' the first of which was formed in 1739. He later drew up Rules of the Society, which are still accepted by the Wesleyan Methodist Church. The chief characteristic of the church is the 'class-meeting.' Anyone who feels a 'desire to flee from the wrath to come and be saved from their sins, may become a member of a class-Methane, or Marsh Gas (CH₄), the meeting, by which act he is enrolled

attempts have been made during the last few years to alter this rule. classes meet weekly for the purposes of Christian fellowship under the superintendence of a leader. Each church has its stewards, whose duties partly religious and partly financial. A circuit quarterly meeting is also held, formed of representatives from different churches or chapels in the neighbourhood, which together make up a 'circuit.' A minister is invited to a church by the quarterly meeting. His invitation is for one year at a time, but is usually renewed until he has remained in the circuit for three years. According to the legal constitution declared by the Conference of 1784, he cannot remain in one circuit for more than three years, but there is a general conviction in the church that the term should be extended, and it is not uncommon now for a minister to receive permission from Conference to remain in a circuit for four, five, or even six years. Besides ordained travelling ministers, there are 'travelling' ministers, there are local preachers.' These are laymen who offer voluntary services on Sunday, and after passing certain examinations are then enrolled as preachers. They are of particular breaders. They are of particular benefit in country circuits where ministers cannot be provided for every little chapel. The whole con-nection is governed by an annual assembly, held in different towns of the United Kingdom, known as the Conference. Down to the year 1784 it was a select ministerial council, presided over by John Wesley. In that year its rights were defined, and it was given specific control over the ministers and churches throughout the Connection. In 1878 lay representatives were introduced into Conference, and in 1911 women were admitted under the same rules as laymen. Questions regarding the various interests of the church are discussed, and what has been done in the general Conference is aftersubmitted to the wards Legal Hundred, a body of one hundred ministers elected for life by the Con-There are four theological colleges for the training of ministers, at Richmond, Headingley, Didsbury, and Handsworth, and two schools for the children of Wesleyan ministers ocieties of Canada united into one—Trinity Hall, Southport, for girls, and Kingswood School, The Wesleyan Church in 1833. The various Methodiand Kingswood School, the Wesleyan Church does much miss Church does much miss abroad, and celebrated the centenary | 1900-2, forming one Methodism in of its Foreign Missionary Society in the South Pacific.

as a member of the Church. No one 1913. The National Children's Home can be a member of the Methodist and Orphanage is under the super-Church without having his name intendence of the Conference. The down on a 'class-book,' though Methodist Book-Room in City Road, London, issues a number of tracts. papers, and religious publications. The chief papers of the Society are the London Quarterly Review, Wes-leyan Methodist Magazine, Methodist Recorder, and Methodist Times. In England there have been many

secessions from the Church, as was inevitable. The Methodist New Connection was formed in 1797 under the leadership of Alexander Kilham, who, in his pamphlet, The Progress of Liberty (1795), asked for more power for laymen and less for the ministers. In 1907 this body amalgamated with the United Methodist Free Churches (established 1857) under the name of the United Methodist Church. Another solism took place in 1812, through the expulsion of Hugh Bourne and William Clowes, who, in spite of the expressed wish of Conference, persisted in holding open-air revival meetings. They consequently organised an independent church, called the Primitive Methodist Connection, which held its first con-ference in 1820. The Protestant Methodists formed themselves into a separate body as a protest against placing an organ in the Brunswick Wesleyan Methodist Church (1828). The Bible Christians or Bryanites found the restrictions of Conference irksome in evangelistic work among irksome in evangelistic work among the Cornish miners, and separated from the larger body in 1815. The Welsh Calvinistic Methodists were founded by Whitefield independently of the Wesleyan Methodist Church in England. Their church government resembles that of the Presbyterian Church. The Methodist Episcopal Church of the United States, America, originated in the evangelistic work of some Irish immigrants, who settled in New York in 1766. It who settled in New York in 1766. It received its first bishop in the Rev. Thomas Coke, who was ordained by John Wesley. Thus the American, unlike the English, Mothodist Church, has the episcopal form of government. The Wesleyan Methodist Connection

of America arose out of a schism on the question of slavery in 1811. A further secession from the Methodist Episcopal Church took place in 1844

Wesleyans in

Sec Lives of the Wesleys and White- the oldest man mentioned in the field; Wesley's Works and Journal; Bible, dying at the age of 969 years. field; Wesley's Works and Journal; George Smith, History of Methodism, 1862; Abel Stevens, History of the Religious Movement, called Methodism, 1861; Daniel, Short History of the Methodists; Rigg, Church Organisations, 1897, and The Connexional Economy of Wesleyan Methodism, 1879; Waller, Constitution and Polity of Wesleyan Methodism 1880; Gregory History stilution and Polity of Westeyan Methodism, 1880; Gregory, History of Methodism, 1911; Barclay, Con-stitution of the Methodist Episcopal Churches in America, 1902; and Atkinson, Centennial History of Atkinson, Centennial Hi American Methodism, 1884.

Methodius, SEE CYRIL AND

METHODIUS.

Methuen, a tn. of Essex co., Massachusetts, U.S.A., 2 m. N.N.W. of Lawrence. Manufs, woollens, Methuen, tn. cottons, shoes, etc. Pop. (1910) 11,448.

Methuen, Field Marshal Paul San-ford, third Baron, G.C.B., G.C.V.O. C.B., C.M.G. (b. 1845), succeeded Frederick Henry Paul M., the second baron (1818-91). He was descended from the Lord Chancellor of Ireland, John M., whose name is associated with a famous treaty with Portugal, was born at Nynehead, Somersot-shire, and educated at Eton. In 1864 he joined the Scots Guards, and was on special service on the Gold Coast in 1873; in 1874 he took part in the Ashanti War. From 1877-81 he was military attaché at Berlin. He took part in the Egyptian War of 1882, being present at Tel-el-Kebir and Kassassin; he was mentioned in despatches and decorated for his services in the war He comfor his services in the war. He com-manded 'Methuen's Horse' in the Bechuanaland expedition of 1884-85, being made a C.M.G. His promotion to the rank of major-general took place in 1890. During the Boer War of 1899-1902, he was in command of the First Division of the First Army Corps. After defeating the Boers at Belmont, Enslin, and the Modder R., he was taken prisoner in 1902 by Delarer, but released. He was appointed commander in-chief of the commanding chief of S. Africa in 1907; in 1909 he was made governor of Natal.

Methuen Treaty, a commercial treaty agreed between Freiend

Methuen Treaty, a commentary treaty arranged between England and Portugal in 1703. It was negotiated by Paul Methuen, and by it the Portuguese wines were received at a lower duty than those imported from France. It was abandoned in 1836.

Methucalah - sis, the son (Noah, of

Methyen, a vil. in Perthshire, Scotland, 6 m. W.N.W. of Perth. Pop. (1911) 1847. Methyl Alcohol (CH₂OH), Wood Spirit, or Carbinol, the simplest of

the monohydric alcohols, occurs in nature in several substances, e.g. as methyl salicylate in oil of wintergreen. On distilling this oil with dilute potash, an aqueous solution of pure M. A. is obtained. It is chiefly pre-M. A. is obtained. It is contained pared from the products of the destructive distillation of wood. alcohol is obtained by redistilling the crude distillate over lime, finally purifying by the formation of the crystalline calcium chloride compound or of the oxalic ester, from which it is obtained by distillation with water or with potash. M. A. is a colourless liquid (sp. gr. 796 at 20° C.); it boils at 66° C., and has a virous odour and burning taste. It mixes with water in all proportions, and is largely used in the pre-paration of organic dyes and var-nishes, and for the preparation of methylated spirit.

Methylated Spirit contains about 90 per cent. of raw spirit (aqueous ethyl alcohol), about 10 per cent. of crude wood spirit (methyl alcohol), and a small quantity of paraffin oil, and a small quantity of paratin oil, which renders the alcohol unfit for drinking purposes, without affecting to any great extent its value as a solvent. This spirit, under certain restrictions, may be sold duty free for varnish-making, etc., further restrictions being imposed if the mineral oil to control

is omitted.

Metis (Mýris), in Greek mythology, was the personification of prudence. She was the daughter of Oceanus and Tethys and the first wife of Zeus, who in fear lest she should give birth to a child more powerful than himself, devoured her in wrath. He afterwards himself gave birth to Athene, who issued from his head.

Metius, Adrian (1571-1635), a Dutch reometrician, born at Alkmaar. He found out a truer relation of the circumference of a circle to its diameter, i.e. the value fff, which had previously been represented by 4. Among ousiv veets teptes that the works are: Doctrina spherica libri v.; Praxis nova geometrica Problemata astronomica, 1625; Calendarium perpetuum, 1627.

Metius, James, the brother of Adrian. also a native of Alkmaar. He is said to have invented the refracting telescope in 1609, on the mere report of which invention Galileo constructed his first telescope the following year. Methovic, a market tn. of Austria,

near the Herzegovina frontier of Dalis matia, on the Narenta R. Pop. 5723.

astronomer of ancient Athens. He is famous for having introduced the metonic cycle, a period of nineteen colar years.

Metope (Gk. μετόπη, a middle space), a term in architecture for that part of the front which is interposed between two triglyphs in a Doric frieze.

Metre, see METRIC SYSTEM. Metre, in poetry, is that arrange-ment of syllables in an orderly succession so as to constitute verse. The syllables are divided into a number of similar or dissimilar groups, each of which constitutes a line or verse (Gk. στίχου), and in modern languages the end syllables of these lines are usually related by rime or assonance. The lines themselves can be subdivided into feet, each line normally consist-ing of a certain number of these feet In Greek and regularly repeated. regularly repeated. In Greek and Latin verse, M. consisted in a regular succession of long and short syllables, and the verse accent did not usually coincide with the ordinary accent of the word. In English, however, quantity has ceased to be definite and definable, and it is upon the accent that M. depends. It is, therefore, with the attemption of accented and unthe alternation of accented and unaccented syllables that the laws of M. deal. In English each foot is supposed to consist of an accented syllable combined with either one or two un-accented syllables. In this way five kinds of measure are secured. (1) The commonest of feet is the iambus, consisting of one unaccented and one accented, such as the word estate. (2) The trochee, one accented and one unaccented, as holy. (3) The dactyle (Gk. δάκτυλος, a finger, from its three

back), the dactyl reversed, as in promenáde. (5) The amphibrach, an accented syllable between two unaccented, as in appearance. These different feet may be arranged so as to form various kinds of lines. Theoreti-cally each line should consist of a certain number of similar feet, but in practice there is not often this regularity. Freedom in the use of syllabic equivalents makes the verse supple instead of stiff, and its value was clearly understood by so early a poet as Chaucer. The doctrine of 'syllabic equivalents' is, briefly, that two un-accented syllables are equivalent to one accented. Hence, in spite of the conventional demand for an accented syllable in each foot, many a one in reality consists only of three un-accented syllables. This great freedom, which is characteristic of the best English verse, makes it difficult and well-nigh impossible to measure 100 square

Meton (Gk. Μέτων) (fl. 432 B.C.), an jour verses by rule of thumb. Much of it could be scanned in many ways, and could be brought within the bounds of no little system. It is possible, how-ever, to speak of certain types of verse, and to show the normal con-struction to which all the variants are related. Perhaps the best known verse is the iambic pentameter, known as the heroic couplet when each pair of lines is connected by rime, and as blank verse when unrimed. The elegiac is also a decasyllabic measure. but here the rimes are alternate, and the verse is generally divided into stanzas of four lines (e.g. Gray's Elegy). Rime royal, used by Chaucer in several of his minor poems, is written in stanzas of seven iambic pentameter lines riming ababbcc. Octosyllabics, consisting generally of four lambic feet, are useful for quicker narrative, and were commonly used by Scott and Byron for this purpose. The M. usually known as ballad metre, also very common in hymn tunes of quatrains, consists of lines of eight and six syllables alternately. Anapæsts and trochees are frequently subpassis and trochees are requently sub-stituted for iambies, the latter being especially used at the beginning of a line. See Saintsbury's History of Eng-lish Prosody (3 vols.) 1906-9; J. B. Mayor's Chapters on English Metre (new edit), 1901. Metric System.

Metric

This system of weights and measures was introduced by the French Republic in 1801. Its fundamental unit of length is the metre, which was taken as one tenmetre, which was taken as one team millionth part of the distance from the poles to the equator. Recent in-vestigation has shown that this is inaccurate, and the standard is now defined as the length of a bar of an defined as the length of a bar of an alloy of iridium and platinum kept in the archives in Paris. It is by far the most practical system, its various units for larger and smaller distances than the metre being multiples and sub-multiples of ten of the metre. Thus, to convert metres into decimetres, it is only necessary to multiply by ten. It is a legal system in Great Britain by Act of parliament (1864), although the Act has remained practically inoperative. The system is universally used in scientific investigation.

gation. Measures of length.-- 1 kilometre= 1 metre=100 centi-1000 metres; metres=1000 millimetres. British equivalent for 1 metre=39.37 Clearly, then, 1 centimetre=

·3937 in. Measures of area.—As in the English system they speak of a square foot, so in the M. S. they speak of a square met

denominations

Metropolitan Police Courts, petty sessional courts presided over by a

centimetre; 10,000 square centimetres=1 square metre; 1 square kilometre=1,000,000 square metres. The British equivalents are: 1 square metre=1'196 sq. yds.; 1 square kilometre=0'386 sq. m. The denominations 1 hectare=10,000 square metres, 1 are=100 square metres are occasionally used.

Measures of volume.—1 litre=1000 cubic centimetres=1.76 pints; various multiples and submultiples of the

litre being also used.

Measures of mass.—1000 milli-000 grammes

camme = 15.4 = 2.205 lbs. re connected cubic centi-

metre of water at temperature 4° C, weighs 1 gramme, or that 1 litre, i.e. 1 cubic decimetre or 1000 cubic centimetres, weighs 1 kilogramme.

Metronome, an instrument used for determining and securing the movement of musical compositions. It was invented by Maelzel about 1814, and consists essentially of a pendulum of which the point of suspension is between the extremities. The pendulum is driven by a spring and wheel which ticks the oscillations. A movable weight is attached to the pendulum, and an upright scale graduated to correspond with marks on the rod is placed behind. The period of the pendulum's vibration can thus be varied to any required time by adjusting the weight until it is opposite to one of these lines, the mark near the line giving the number of oscillations per minute.

Metropolitan Police. The area under the supervision of the M. P. includes the whole of Middlesex and portions of Kent. Essex, and Surrey, within 15 m. of Charing Cross. Their primary duties are the keeping order in the vicinity of places of public resort, and the apprehension of offenders against the criminal law. They are the authority for regulating the street traffic. especially during public processions and near churches and places of public worship during divine service on Sundays and other They also issue annual holy days, licences to proprietors, drivers, and conductors of conveyances, enabling omnibuses, carriages, carts, etc., to ply or stand for hire within the metropolitan police district; and they have power to make bylaws for regulating the conduct of all such persons. The M. P. are under the direct control of the Home Office, but the City itself is poli and Counc

paid professional magistracy, generally called stipendiaries. Other large towns have such courts as distinct from those of the unpaid magistracy, but the police court (in the sense in which it is used in this article) originated in London in the early Georgian period when the earlier tentative efforts to police Westminster were developed by the appointment of con-stables, and 'annoyance juries,' who reported on public nuisances, annoyances, and other small offences. 1792 the crown was given power establish seven public courts in specified metropolitan parishes, and appoint three justices drawn from the Middlesex and Surrey magistracy, for each of such courts. The Act of 1792 was repealed and re-enacted by an Act passed in 1802, and this later Act may be regarded as the real charter of the metropolitan stipendiaries. Tseven courts or 'publick offices,' seven courts or 'publick offices,' as they were styled, were established at the parishes of St. Margaret, Westminster; St. James, Westminster; St. James, Clerkenwell; St. Leonard, Shoreditch; St. Mary, Whitechapel; and St. Paul, Shadwell (for Middlesex), and at or near St. Margaret's Hill, Southwark (for Surrey). The crown could order salaries of £500 each to the justices, such salaries to be clear of all deductions, provided the aggregate charges, including salaries, attending the maintenance of these 'publick offices,' did not exceed £18,000 annually. The result of this establishment of paid magistrates in the metropolis was that they enjoyed a monopoly of fees at their public offices within the limits of the Weekly Bills of Mortality, for henceforth, with few exceptions, no fees could be taken by any other justices under a penalty of £100. The excepted cases were, inter alia, fees for licensing alehouses, and fees for the purpose of enforcing the payment of taxes and assessments arising within the parish concerned, and generally fees taken at Bow Street Public Office—this celebrated place being thus early a central institution. Notwithstanding these changes, the policing of the metropolis left much to be desired. and especially in the vicinity of the Thames. The 'hooliganism' in the neighbourhood of the river resulted in the establishment of a police office at Wapping New Stairs with three justices and seven (!) constables. Altogether in 1797 there were not re 2000 constables or 'watch-'in the metropolis. Accordingly, 330, another court was established

METROPOLITAN POLICE COURTS.

Police

henceforth to be policed by the new 'police force,' who were placed under the direct control of the justices, and superseded the old London watchmen. A later act extended the jurisdiction of the M. P. C. by giving the police constables of the metropolitan force powers in Bucks and Berks, in addition to the metropolitan area properly so called. The M. P. C. now number fourteen: Bow St. with three magistrates, Clerkenwell two, Greenwich and Woolwich two between them, Lambeth two, Marylebone two, Thames two, Tower Bridge two, Old Street two, Westminster two, W. London two, Marlborough Street two, N. London one, and South Western one. Juvenile courts were established by Order in Council of Dec. 2, 1909, at Bow Street, Clerken-well, Tower Bridge, Westminster, Old Street, and Greenwich. Each of the courts has a staff of clerks, office keepers, ushers, and gaolers. crown is empowered under The under thei Metropolitan Police Courts Act, 1839. to alter the number of the courts and magistrates, and under an Act of 1840, to constitute police court divisions with a police court for each, provided only the number of the magistrates do not at any time exceed twenty-seven. The statutory

magistrate is now £1800, that of each of the others being £1500. Bow Street has the distinction of being the only court having jurisdiction in extradition cases. Everything which can be said to relate to public order or the prevention of nuisances comes within the general jurisdiction of the M. P. C. further information consult Wood Renton's Encyclopædia of the Laws of England, and Archibald's Metropolitan Police Guide.

Metropolitan Water Board, the body responsible for the water supply to the administrative county of London, a duty which was formerly left to the initiative of the various metropolitan water companies. The Board, as constituted by the provisions of the Metropolis Water Act, 1902, is composed of 66 members, 14 of whom are appointed by the London Council two by the Common Council of the City, two by the City Council of the borough of Westminster, one by each of the remaining metropolitan borough councils, and the re-

the component parishes of which were within the metropolitan water area. In 1907, the debt of the M. W. B., which consisted mainly of the com-pensation payable to the extinct water companies, and the debenture stock of those companies transferred to the Board with the rest of the assets or liabilities, was \$47,415,652. During the years 1905-6 the average daily supply of water by the Board was upwards of 220,000,000 gallons, giving an average of 32 gallons per head of a total population of nearly 7,000,000. London has not yet derived any benefit from the purchase of these water companies, but future legislatures may devise some means of ridding the state of the burden imposed by water stock, as e.g. by converting it into terminable annuities. a policy which would at once result in a reduction of price. See also MUNICIPAL TRADE.

Metrosideros, a genus of evergreen shrubs or trees (order Myrtaceæ). The wood is hard and heavy, and is

utilised in New Zealand. Metsu (or Metzu), Gabriel (1630-67) a Dutch painter, born at Leyden. He studied under Gerard Dow, and in 1648 was admitted into the Painters' Guild at Leyden, but left that city two years later for Amsterdam, where he settled as a painter of genre pic-tures. His chief works are: 'The boundaries of the respective districts Market-place of Amsterdam, at the will be found st Metropolitan P. Hague; 'The Sportsman,' at the Hague; 'The Game-Dealer's Shop,' at Dresden; 'The Repast,' at the held every day, Sundays and holidays Hermitage, St. Petersburg; and 'The excepted. The salary of the chief Duet,' and 'The Music Lesson,' in the National Gallery, London

Metternich - Winneburg. Clemens Wenzel Nepomuk Lothar, Duke of Portella, and later Prince von Metter-nich (1773-1859), born at Coblenz, his father being the famous Austrian statesman, Franz Georg Karl von Metternich-Winneburg. In 1795 he married the daughter of Prince Kaunitz, and henceforward assumed a prominent position in the diplomatic world. He became minister at Dresden in 1801, and two years later was transferred to Berlin. During the years 1806-7 he represented Austria at Paris, where, in spite of his anti-Napoleonic policy, he managed to keep on good terms with Napoleon, whom he tried to bring into an alliance with Austria. The war which followed was terminated by Napoleon's victory at Wagram and the Treaty of Vienna (1809). After this Metternich became Chancellor and Foreign Minister. For some time he veiled his enmity against Napoleon, and succeeded in negotiating the marriage mainder by the local authorities of between that emperor and Maria those districts which, though outside Louise in 1810. But during the next the county of London, are included two years the attitude and the successes'of Napoleon led to the formation of the great alliance between went to Rome in 1801, where he spent Russia Austria and Borria, in which, the rest of his life. His works, which Metternich were executed in the chalk manner of and the chalk m

ading posivictory of

Leipzig enabled him to dictate terms to Napoleon, and he took a leading part in the negotiations which followed this event. From this date Metternich figures as the champion of Conservatism throughout Europe, the opponent of every attempt to change the established order. By his distate of Hidalgo, 40 m. N. of Pachuca. opponent of every attempt to change the established order. By his di-plomacy he again managed to secure the leading position in the Holy Alliance, which he used as an instru-ment for furthering these aims. The Revolution of 1848 came as a great shock to him, and its results were seen in Austria in the fall of Metternich's government. He left Austria with an armed escort, and took refuge in England. In 1851 he removed to his castle of Johannisburg on the He died at Vienna in 1859. Rhine. His Memoirs were published at Vienna (1878-84), and were speedily translated into German and English. See also works by Beer, Zehn Jahre österreichischer Politik, 1801-10, 1877, etc.; A. Sorel, L'Europe et la révolution française, and biographies by F. von Demelitsch and H. Welschingen.

Mettmann, a tn. of Prussia in the Rhine prov., about 8 m. N.E. of Düsseldorf. In the vicinity the Neander Cave, containing the remains of a prehistoric human being, was liscovered. Pop. 10,762.

liscovered. Pop. 10,762.

Metz, a tn. and fortress of Gernany, in Alsace-Lorraine, 33 m. N. of Nancy. It is situated on the Moselle it its confluence with the Scille, and s surrounded by a system of fortificaions. Its streets are wide and clean, and it contains numerous spacious iquares. The cathedral, a Gothic edifice, was begun in 1014, and inished in 1546. The church of Notre-Dame-de-la-Ronde is a notevorthy structure. Its choir was built n 1130. In the cemetery of Champière there is a memorial to the 8400 Frenchmen who fell in the war of 1870. Its industry is active, the chief employments being lace-making, tanning, embroidering, and there is trade in corn, poultry, fruit, and wine; there are also brass and copper foundries. M., known to the Romans by the name of Divodurum, was the chief town of a people called the Mediomatrici, whose name it took at a later date. In the 5th century, the corrupted form Mettis first came into use, whence the modern M. It surrendered to the Germans in 1870.

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Pop. 8000.

Meudon, a tn. and S.W. suburb of Paris, France, in the dept. of Seine-et-

Oise. It manufs, glass, ammunition, and linen goods. Pop. 10,500.
Meulebeke, an industrial tn. near Courtrai. Belgium, in the prov. of W. Flanders, with manufs. of lace and textiles. Pop. 9900.

Meulen, Adam François van der (1632-90), a Flemish painter, born in Brussels. He was a pupil of Peter Snayers, but soon surpassed his Snayers, but soon surpassed his master. Colbert appointed him battle-painter to Louis XIV. He painted the principal battles and sieges in Flanders for the Chateau of Marly. In 1673 he was made a member of the Academy. Many of his pictures are at the Louvre and Versailles.

Meum, a genus of umbelliferous ants. M. athamanticum is the plants. Spignel, Meu, or Baldmoney of Scot-land. The leaves are bipinnate, with crowded, bristle-like segments, and the umbels of flowers are yellow.

Meung, Jean de (Jean Clopinel) (c.1250-1305), a French satirist, lived in Paris. He wrote over 20,000 lines Jean de (Jean Clopinel) in continuation of Guillaume de Lorris's Roman de la rose, the style, logical exposition, and virility of which entitle him to be called the first of French mediæval poets. his contempt, moreover, for romance, superstition, feudalism, monasticism, the papacy, and royalty, he was the Voltaire of his age.

Meunier, Constantin (1831-1905), a Belgian sculptor and painter, born near Brussels. Among his best known pictures are: 'The Salle St. Roch,' 1857; 'A Trappist Funeral,' 1860; and the notable series depicting the miners and factory hands in Lemon-nier's Le Tour du monde. But it is primarily as a sculptor he will live. His best statues are: 'Miner.' Pud-dler,' 1885, and 'Mower,' 1892, and a series of bas-reliefs which he called a Monument to Labour.

Meurice, François Paul (1818-1905), a French literary man, studied law and literature; was made chief editor of Victor Hugo's Evenement, and imprisoned as such for six months. rendered to the Germans in Average of Victor Hugo's Lecture of Metz, Conrad Martin (1755-1827), a of Victor Hugo's Lecture of Metz, Conrad Martin (1755-1827 his original plays were Benvenuto Cellini (1852) and Struensće (1893), whilst for Falstaff (1842) and Hamlet

(1843) he had collaborators.

Meursius, Johannes (properly Jan de Meurs) (1579-1639), a Dutch classical scholar, became professor of history and afterwards of Greek at Leyden University (1610 and 1611), and in 1625 accepted the chair of history at Sorö in Denmark, as the execution of Barneveldt, whose children he taught, had exposed him to ceaseless persecutions. Among many other works he wrote: Res Belgicæ (1612), a Glossarium Græco-Barbarum (1614), and Historia Danica (1630). See also

Gronovius, Thesaurus.

Meurthe et Moselle, a dept. in the N.E. of France, being formed, after the treaty with Germany in 1871, out of the remnants of the old departments of Meurthe and Moselle. prov. is drained by the Moselle. affluent of the Rhine, and its tribs., and by the Chiers. a trib. of the Meuse. Grand Rougimont (2041 ft.) in the Vosges is the highest peak. The Paris-Strassburg main line passes through Nancy, the cap. The manufs. of cast and sheet iron, of iron and steel goods, and of earthenware and glass are very considerable. Rock-Vitleulsalt is found in abundance. ture flourishes, and cereals, potatoes,

cure noursnes, and cereals, potatoes, and hops are widely grown. Area 2020 sq. m. Pop. 564,730.

Meuse: 1. A dept. of N.E. France, composed of portions of Lorraine and Champagne. The basin of the Meuse, which flowing N. from E. to W., occupies one-half of the dept., the rest being drained in the N.E. by the Orne and Chiers and other and Chiers Orne and Chiers and other ms. The main ridge of highstreams. lands, which sink from south northwards, forms the watershed between the Seine and Rhine. The hills of the Argonne are clothed with magnificent oak forests. Cereals, potatoes, re the staple

and the vine is Freestone is

the mineral wealth nor the industries are important. Cap., Bar-le-Duc. Area 2409 sq. m. Pop. 277,955. 2, (or Maas) A river, over 550 m. long, rising in the dept. of Haute Marne, France. Passing Verdun in a northerly direction, it enters Belgium, and after bending eastward beyond Namur, flows northward again past Liège in Belgium and Maestricht in Holland. After a sharp curve westward it enters the Waal. that is the left arm of the Rhine, at Woudrichem. It now divides, the northern branch, called the Merwede,

rables, and afterwards Notre Dame de eventually reaches the sea through Paris and Quatre-vingt-treize. Two of two channels, the Oude and the two channels, the Oude and the Nieuwe-Maas. and the southern. which, after entering the Hollandsche Diep, flows into the sea through the Haringvliet and Krammer. dam and Dinant are both on its banks.

> Meuselwitz, a manufacturing tn. in the duchy of Saxe-Altenburg, Germany, 8 m. N.W. of Altenburg, Pop.

8869.

Mevagissey, pilchard \mathbf{a} fishing station and health resort, 12 m. E. of Truro, Cornwall, England. (1911) 3467.

Mexborough, a tn. with potteries and iron and glass works, on the Don, 5½ m. N.E. by N. of Rotherham in the W. Riding of Yorkshire, England. Pop. (1911) 14,398.

Mexia, Pedro (1496-1552), a Spanish historian, was appointed historio-grapher to the Emperor Charles V. in 1548. In his Historia Imperial y Cesarea (1547) he chronicled the reigns of all the Roman emperors from Julius Cæsar to the Austrian Maximilian. His chief work is Silva de Varia Leccion, 1543.

Mexico, Gulf of, a great inlet situated between U.S.A. on the N. and Mexico on the W. and S. It has an area of some 800,000 sq. m., and is entered by the Gulf Stream, which sweeps its shores in a semicircle. is subject to sudden wind-storms.

Mexico, The Republic of, in the N. American sub-continent, consists of a large plateau, 767,005 sq. m. in extent, and from 6000 to 8000 ft. above sea-level, including in its gradual elevation from the sea coast all varieties of temperature from tropical heat to a climate similar to that of Northern The elevation upon which it lies is formed by the mountain range of the Sierra Madre, which divide into an eastern and western range, be-tween which lies the plateau of Anahuae, the district of the ancient Mexican civilisation, which is broken up into many deep and warm valleys, and which is surrounded by the peaks of the mountains, the ridges of which form its surface. This table-land gradually expands in breadth northwards and remains on an average elevation of about 6000 ft. as far as 420 m. from the city of Mexico, after which it gradually declines. The soil is hard and flinty, and resembles that of Spain. In winter the frosts create great fissures in the ground which in summer are filled up by melted snowwater from the mountains, so that a natural system of irrigation is created. The soil is rich in metalliferous deposits, and silver, antimony, and the rarer building stones abound. A large flourishing mining industry exists. proceeding to Dordrecht, whence it and this, combined with extensive

raising ranches, keeps the country in condition of the people. In 1821, a condition of much prosperity. The after a prolonged revolutionary cambulk of the population is of aboriginal paign, the independence of M. was Indian of mixed descent, but the executive classes are for the most part of pure Castilian blood. The country is divided into twenty-two states, and ls divided into twency-one scales, and the principal cities are Mexico (the Federal capital, pop. 470,000), Oaxaca, Puebla, Durango, The rivers are insignificant and useless for navigation. Pop. 15,063,207. Imports (1911) £20,000,000 (approximate); exports £28,000.000. Constitution .- See CONSTITUTION-

Mexico. History.—In the absence of all definite evidence, and in the face of an unparalleled dearth of contemporary manuscripts, it is impossible to fix, with any degree of certainty, the earlier events in Mexican aborigian listory. Tradition speaks of an ancient race called the Toltees, who, in the 11th century, founded the city of Tula, and became the disseminators of civilisation and art throughout the length and breadth of the land. Although the existence of this people is accepted as a fact by many writers, others frankly regard them as mythical. An intermediate view is that which agrees that the ancient monuments which exist in M. must be referred to some such civilising agency, but which cannot assent to any exact identification of that race. This archaic civilisation that race. This archaic civilisation soon fell before the assaults of a barbarous folk of Nahua race, known

overthrown. The various sions of this family found throughout a tract of territ

throughout a tract of territ mensurate with modern M., of these, the Aztecs, or 'Crane-people,' so-called from the fact that sources and Development of the they dwelt in the low marshes of Mexican People, 1893; Lumholz's the lakes of Texcuco, founded the city of Anahuac, or Mexico, and became so formidable to their neighbecame so formidable to their neighbours that, by the reign of Montesum and Martin's Mexico of the 20th Century, bours that, by the reign of Montesum and Martin's Mexico of the 20th Century, bours that, by the reign of Montesum and Martin's Mexico, the Land suzereignty over all the tribes from the Atlantic to the Pacific. On the coming of the Spaniards under Cortez in 1519, Aziec rule was finally overthrown, chiefly by means of the assistance the Spaniards received from those peoples whom the Aztecs had held in cruel bondage. After the disgrace of Cortez, M. was governed by a viceroy and council, and was regarded as an appanage of the Spanish crown, which condition as Teocalli, or 'Houses of the Gods,' of affairs lasted for nearly three constructed of mounds of earth hundred years, but not without distanced with masonry, in some in-

agricultural operations and cattle-period because of the down-trodden recognised, and an emperor, Augustin de Iturbide, seated on the throne. He abdicated in 1823, but, attempting to return, was shot in the following year. M. was proclaimed as a republic in 1824, since when its history has been more or less of a physical desired. chequered nature. In 1846 a war with the U.S.A. broke out, which ended rather disastrously for the northern republic, which gained the cession of New M. and Upper California at the price of £5,000,000. In 1863, through the intervention of Napoleon III. of France, the unfor-tunate Maximilian, an Austrian archduke, was created emperor of M. His reign was brief, and despite a vigorous French assistance, he was hurled from the throne and executed. In latter years M. may be said to have been under the dictatorship of the shrewd President Porfirio Diaz, who undoubtedly did more to bring the country into line with other civilised communities than any of his predecessors. By reason of a widespread revolution which took place in 1911, he was forced to fly to Europe, and his place was taken by President Madero, who was murdered during a counter-revolution early in 1913. The new president was General Huerta, and towards the end of the summer of 1913 strained relations arose between M. and the U.S.A., owing to the as the Chichimees, who adopted the latter's non-recognition of the Huerta arts and culture of the race

of Unrest, 1913.
Ancient civilisation.—The ancient

monuments and other traces of their art and life executed by the pre-Columbian aborigines of M. tend to give us a high opinion of the degree of civilisation to which they had attained. In many parts of country, especially at Ch especially at Cholula, Tula, and Xochicalco, Papantla, are found graduated pyramids known as Teocalli, or 'Houses of the Gods,' constructed of mounds of earth turbance, many revolutions, riots, stances elaborately carved. On and famines occurring during that the summits of these, human and stances elaborately carved.

wind), Huitzilopochtli (the war god). Tlaloc (the rain god), and other deilies. An older deity, Quetzcoatl, also a god of the sky, and son of the sun, was further worshipped, and a host of minor gods were likewise revered. Few traces of domestic architecture remain. The government was an elective monarchy but the priesthood had great control over the people. However, a well-defined code of laws was observed, and a high standard of morals was in vogue. War usually consisted in the capture rather than the slaughter of enemies, who were reserved for sacrifice, and usually devoured. but this cannibalism consisted more in a desire to realise communion with the deities such captures symbolised rather The Az

besides system of picture-writing they were extraordinarily gifted in the pictile and minor graphic arts, in jewellery, and especially in feather-work, of which the garments of the upper classes principally consisted. Their weapons were by no means suited to a campaign against the steel-clad Their Spaniards, being for the most part confined to a flint-edged maqua-

huitl or wooden sword, darts, and

Mexico City, the cap. of the republic of Mexico, is situated in a valley near the former Lake of Texcuco (drained 1900). It is 16 m. in circumference, and in architectural and other respects compares favourably with the average European city of similar size. One of the principal sights of the city is its splendid national museum, filled with treasure The great of Aztec civilisation. Government Palace and the Academy of San Carlos are also worthy of men-The industries are somewhat limited, and comprise for the most part the manufacture of tobacco and saddlery. But the city is to some

a lo signi. on the site of the complet of a deity, cost \$2,500,000, and is the handsomest ecclesiastica . ing on the American contine: city is well supplied with w

tinguished, and the climate is never linguished, and the climate is never lunduly torrid, even in the height of summer. Many of the relics of the Aztec dominion are still unearthed in legan to lecture on physics and

other sacrifices were made to the Mexico, and a school of archaelogy gods Tescatlipoca (the god of the has recently been founded in the city has recently been founded in the city under the direction of Professor Maudslay, an English resident. Pop. 470,659, the majority of whom are native Mexicans, with a very considerable admixture of Americans and Germans.

Meyer, Felix (1653-1713), a Swiss painter, became famous by executing a series of frescoes for the abbey of St. Florian (Upper Austria). Deficient in the art of figure drawing, he ex-celled in portraying the beauties of his native landscape.

Meyer, Hans (b. 1858), a German traveller, was born at Hildburg-hausen. After exploring German E. Africa he ascended Kilimaniaro, the

highest peak of in 1886. In 1 Andes of Ecuac are recorded in Zum Schneedon 1888. and scherfahrten, 1890.

Meyer, Heinrich (1759-1832).German painter and art critic, made the acquaintance of Goethe in Rome (1786), and in 1797 settled down in Weimar, where he enjoyed the great poet's friendship, and inspired him, it seems, with many of those opinionon art and æsthetics which appeared in Kunst und Alterthum, Winckelmann und sein Jahrhundert, etc. Besides editing Winckelmann's Works (1808-1820), M. himself composed a badly-arranged history of Greek art (1824).

Meyer Agr (1824).
Meyer, Heinrich August Wilhelm (1800-1873), a German Protestant divine and exegete, born at Gotha, and studied theology at Jena. He became pastor in 1841, but gave up the active ministry in 1848 and settled in Hanover. His great work was his N.T. commentaries, which appeared in the monumental Kritischer Kommenter was News exegetischer Kommentar cum Neuen Testament (16 vols., 1832-1859), of which he was chief author.

Meyer, Joseph (1796-1856), a German publisher, was born at Gotha. In 1828 he opened Das Biblioountry. The graphische Institut, a publishing ndation-stone house, at Gotha, and issued German 193, was built classics in serial form and by sub-

'owest possible prices. ought out a People's tral Philosophy, an y, etc. Another of is the admirable

means of two aqueducts.

Mexico the snow-covered peaks of the volcanoes, Popocatepetl and Iztacchihuatl, can be clearly disOldenburg; studied medicine at the color of two aqueducts.

Meyer, Julius Lothar (1830-95), a German chemist, born at Varci. Iztacchihuatl, can be clearly dis-

chemistry at Breslau. During the an English poet and essayist, the Franco-Prussian War he tended the daughter of T. J. Thompson. She sick and wounded at Carlsruhe Poly-spent most of her young days in technic. From 1876 onward he held taly. Her first volume of verse, technic. From 1876 onward he held the chair of chemistry at Tübingen. In his Die modernen Theorien der Chemie (1864) he helped to develop the startling theory of the periodic classification of elements, and recalculated the atomic weights.

Meyer, Konrad Ferdinand (1825-98), a Swiss novelist and poet, born at Zürich. His Gedichte (1882, 20th ed. 1901) and his gleavening and idyllic.

1901) and his charming and idville Huttens letzle Tage (1871), epic, Huttens letzle Tage (1871), justify the claim that he has done more for the modern poetry of Switzerland than any one except Göttfried Keller. And yet he was probably more novelist than poet. His Jörg Jenatsch (1876), Der Heilige (1880), and Die Hochzeit des Mönchs

(1880), and Die Hochzeit des Monens enjoyed an enormous popularity.

Meyer, Victor (1848-97), a German chemist, born at Berlin. He became professor of chemistry at Zürich in 1872, at Göttingen in 1885, and four years later succeeded Bunsen, his old master, at his own university of Heidelberg. Besides important work in organic chemistry, he discovered thiophen and a convenient method of thiophen and a convenient method of ascertaining the density of vapours.

Meyerbeer, Giacomo, really Meyer-Beer (1791-1864), a musical composer of Jewish extraction, born in Berlin. He appeared as prodigy-planist at the age of six, and studied under Clementi, Zelter, and Vogler. Aban-doning his early intention of being a pianist, he went to Venice to study composition (1815), where he composed several operas, none of them of posed several operas, none of them of any importance except the last, Il Crociato in Egitto (1824). In 1826 M. took up his abode in Paris, where his chief operas were produced: Robert le Diable, 1831; Les Huguenots, 1836; and Le Prophète, 1843. M. is one of the most important figures in the history of French opera, both grand and comique. His work is remarkable for its brilliant effects and markable for its brilliant effects and powerful climaxes, rather than for any mastery of form or coherence. He wrote much instrumental and choral music of a less ambitious nature, and about forty songs.

nature, and about forty songs.
Meyer-Lübke, Wilhelm (b. 1861), a
German philologist, born at Dübendorf. He studied at Zurich and
Berlin, and in 1887 was made professor of romance philology at Jena,
holding the same chair at Vienna
University in 1890. He has published:

Grammatica France Grammatics and Communication of the same chairs. Grammatica linguæ Græcæ vulgaris, by S. Portius, with a grammatical and historical commentary; and Grammatik der romanischen Sprachen, 1890-1900, which is his greatest work.

Meynell, Alice Christiana (b. 1850), refining. Pop. 7500.

Italy. Her first volume of verse, Preludes (1875), was illustrated by her sister, Lady Butler, the painter of 'The Roll Call,' and won warm praise from Ruskin, but it was her Poems, published in 1893, which definitely established her fame, while her Rhythm of Life, published at the same date, placed her in the front rank of living writers in proce. This rank of living writers in prose. This was followed by: The Colour of Life and other Essays, 1896; The Children, and other Essays, 1896; The Children, 1896; The Flower of the Mind, 1897, an anthology of English verse; and The Spirit of Place, 1898. She has also edited the Selected Poems of Hake and the Poetry of Pathos and Delight of Patmore, and contributed to the National Observer, the Pall Mall Carette the Saturday Persey etc. National Observer, the Pall Mall Gazette, the Saturday Review, etc. Among later works are: London Impressions, 1898; John Ruskin, 1900; Later Poems, 1901; Children of the Old Masters, Italian School, 1903; Ceres' Runaway, 1910; Mary, Mother of Jesus, 1912; Collected Poems, 1913.

Meze, a searout 20 m SW 24

Meze, a seaport, 20 m. S.W. of Montpelier, France, in the dept. of Hérault. Pop. 6500, Mezen: 1. A tn. and seaport of N.

Russia in the gov. of Archangelsk, 15 m. from the mouth of Mezen R. Pop. 1800. 2. A riv. of N. Russia, with a length of 545 m., which flows into the White Sea through Mezen

Bay. Mezerai, François Eudes de (1610-83), a French historian, born at Rye, near Argentan. He was educated at Caen University and in Paris, and having served in two or three campaigns in Flanders, published his History of France, on the completion of which, in 1651, he became historiographer of Europe and a member of the control of the toriographer of France, and a member of the French Academy. He also wrote a History of the Turks from 1612-49, and an abridgment of his history.

Mezereon, or Daphne mezereum, a small fragrant shrub (order Thymeleacers), indigenous to Britain, with fragrant red or white flowers borne in February and followed by red berries. It is poisonous, but has medicinal uses.

Mézières, a fort. tn. in the dept. of Ardennes, France. It has ammunition factories and copper foundries.

Pop. 9500.

Mező-Bereny, a manufacturing tn., 6 m. N.W. of Bekes, Hungary. Pop.

13,000.
Mezèhegyes, a market tn. of Csanad co., Hungary, 30 m. N.E. of Szegedin. Industries, horse breeding and sugar

Hungary, 50 m. W.N.W. of Debreczin. Pop. 16,000.
Mezötur, a tn. of Hungary, near Debreczin, with manufs. of pottery.

Pop. 26,000.

Mezozoth, or Mezurzah, a narrow hollow strip of wood or other substance, with a piece cut out near the top and containing a scroll of parchment on which are written or printed selections from the chapters of the Sherrai (Deut. vi. 4, 9, and xi. 13, 20). On the hack of the scroll is written the Hebrew word 'Almighty,' and this is left exposed when the scroll is fixed in the case. The M. is hung up outside or inside Jewish houses. All Jews, when either going in or coming out of a dwelling, touch the word with their right hand, and repeat the eighth verse of Psalm cxxi.: 'The Lord shall preserve thy going out and thy coming in from this time forth and even for ever more.' See Friedlander's Text Book of Jewish Religion.

Mezquite, a Mexican name for two members of the genus *Prosopis* (q.v.).

Mezurzah, sce Mezozoth. Mezzanine, see Entresol.

Mezzofanti, Giuseppe (1774-1849), an Italian linguist, born at Bologna. He was educated in his native city, and in 1797 became professor of Arabic in the university there, and later assistant librarian of the institute and professor of Greek. In 1831 he went to Rome, and having attracted the attention of Pope Gregory XVI., was made a cardinal in 1838. He acquired a considerable reputation as a linguist, and spoke in all some fifty-eight languages.

Mezzo-soprano, a species of voice which has a somewhat lower range than a soprano, but is higher than a contralto. It is the voice more usually found in women, and has a varying compass generally from A beneath the treble stave to F on the

Mezzotint, a method of engraving invented about the middle of the 17th century, but now so exclusively English as to be termed on the Continent 'la manière anglaise.' Ms. were for-merly engraved on copper, but in the meny engraved on copper, but in the early part of the 10th century steel plates were introduced. The method of M. engraving is as follows: The surface of the plate is scraped in every part with a 'rocking tool,' an instrument resembling a carpenter's chisel, but with a number of tiny teeth. A number of infinitesimally areal points number of infinitesimally small points are thus raised on the 'ground,' and are known as the 'burr.' If a print were now made from this plate, it would be uniformly dark. Portions of the 'burr' are now removed with Biscayne Bay. Pop. (1910) 5471.

Mezökovezsd, a tn. in Borsod co., a 'scraper,' according as lightness of ungary, 50 m. W.N.W. of De-tone is required. For the very light tone is required. For the very light tones, not only the 'burr.' but also part of the ground is removed, since much ink is held in the grooves left by the raising of the 'burr.' The method of M. engraving was introduced in the reign of Charles I. by Prince Rupert, and its later history is associated with the names of M'Ardell, J. Raphael Smith, Fisher, Dixon, etc. See A. Whitman's Masters of Mezzotint, 1898; C. Davenport's Mezzotints, 1903.

Miumbiro, a chain of volcanic mountains near the S.W. boundary of British E. Africa. It consists of two groups—the western which lies directly N. of Lake Kivu, and contains the active volcanoes Kirunga-cha-gongo and Kirunga-namlagira, and the eastern where the lofties peak is Karissimbi (14,683 ft.).

Mglin, a tn. of Russia, about 125 m.

N.E. of Chernigov. Pop. 8000.

Mho (the reciprocal of the ohm), the practical unit of electric conductivity. Thus if a wire has a resistance of 10 ohms its conductivity is

to or 1 mho. Mhow, a tn. in the native state of Indore, Central India, with a British military cantonment. Pop. (including

garrison) 36,500.

Miagao, a trading and manufactur-ing tn. on the S. coast of Panay Is. in the Philippines. Pop. 22,850.

the Philippines. Pop. 22,850.
Miage, a glacier on the S. slope of
Mont Blane. Alt. 12,000 ft.
Miajadas, a tn. of Spain, in the
prov. of Estremadura, 32 m. S.E. of
Caceres. Pop. 5000.
Mialk, see Kyoro.
Miall, Edward (1809-81), an Eng-

lish Nonconformist writer, born at Portsmouth. He was minister at Ware in 1831, and at Leicester in 1834, but resigned in 1841 to found the Nonconformist, a newspaper in which he advocated the cause of Disestablishment. He was M.P. for Rochdale (1852-57) and Bradford (1869-74). He published among other works Tilledeeds of the Church of England to her

Parochial Endowments.
Miami, a tribe of N. American
Indians, belonging to the Algonquian
family which originally inhabited Wisconsin. The survivors live on a reservation in Wabach co., Indiana. They took the side of the English in the American War.

Miami, a city and co. seat of Dade co., Florida, U.S.A., on Miami R. (a trib. of the Ohio) and Biscayne Bay. It is the centre of a country famous for the production of grape fruit, pine apples, and winter vegetables, and there is a considerable amount of fishing. There are sponge fisheries in Miani, or Meeanee, a vil. in Sind, grained foliated rock, composed of India, on the Indus, 5 m. N. of Hy- alternating thin lenticular sheets of derabad. A battle was fought here in mice and quartz. It is a typical meta-1843

Miaotse, aboriginal tribes inhabiting the mountain districts of S.W. China. They originally occupied the central province of the empire, but were driven S.W. to their present abode by the Chinese.

Miasma (Gk. μίασμα, corruption or pollution), see MALARIA.

Miava, an industrial tn. 46 m.

Miava, an industrial tn. 46 m. N.N.E. of Presburg, Hungary, on the R. Miava. Pop. 11,750.

Miazzi, Giovanni (1699-c.1780), an architect, was a native of Bergamo. Among his best known works are the church of S. Giambattista at Bassano

and the theatre at Treviso.

Mica, a group of minerals which are distinguished by their very perfect basal cleavage, causing them to split readily into thin flakes, and by their vitreous, pearly lustre. The Ms. are complex alumino alkaline silicates with iron and magnesia, having an average hardness of 2.5 and sp. gr. of about 3. Muscovite or white potash M. is clear and colourless, and may be obtained in large flexible and elastic plates. It was formerly used for glaz-ing windows under the name of Muscovy glass, and is still in use for lamp chimneys. Lepidolite, or lithia M., is generally rose-red or violet in colour, while biotite, magnesia M., is black or Other types of M. are dark brown. phlogopite, lepidomelane, annite, astrophyllite, and cryophyllite. minerals of the M. group are alike in havin fect b

of Moresheth, a village near Gath, on the confines of Judah), one of the twelve minor Hebrew prophets. was the younger contemporary of Isaiah, and is referred to in Jer. xxvi. 18, as having prophesied in the of days of Hezekiah and Ahaz, kings of Almost all critics are agreed that only a part of the book that bears his name can be attributed to the prophet M. himself. Interpolations, generally post-exilic, are frequent, and continually break the quent, and continually break the city, and lectured there for some time, chain of thought. Thus the first three He visited England in 1741-42, and chapters deal with the led through Holland, and destruction of Samaria

sinfulness of Judah, but

people, and plainly presuppose the exile. Chapters iv. and v. are Messi-anic, dealing with the future glory of Zion and the world-wide rule of Messiah.

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G. A. Smilli (1000).

morphic rock, and occurs very largely in the Highlands, where the older strata outcrop (q.v.). The contained mica is generally muscovite; and garnet, kyanite, schorl, felspar, chlorite, etc., are accessory minerals.

Michael, spoken of in Dan. x. 13, 21; xii. 1, as one of the chief of the heavenly host and as the guardian of It is also as the guardian of the church that he appears in Jude 9.

and Rev. xii. 7.

ar hich was Ionian Isles and Malta in 1818. It was reorganised in 1869, so as to admit Crown servants connected with the colonies. It now consists of not more than 100 Knights Grand Cross, 300 Knights Commanders, and 600 Com-

panions. Michael, 'the Brave' (1558-1601). voivode of Walachia, succeeded to the throne in 1593, and during his reign secured Wallachia for a time a place in universal history. He invaded Turkish territory, aided by Sigismund Báthory, and took by storm Rustchuk, Silistria, and other places on the Danube, and also defeated a large Turkish and Tartar army which invaded Wallachia. 1595 he gained a further victory at Mantin, and subsequently defeated Sinan Pasha, who invaded Wallachia with 100,000 men, and stormed with 100,000 men, and stormed Bucharest. His independence was acknowledged by the sultan in 1597. In 1599 he invaded Transylvania, defeated Andreas Báthory (Sigis-

oclaimed the voiinder his He was,

Order of.

however, driven out of Transylvania by a revolt, but returned, and with the imperial General Basta defeated the Transylvanian forces at Goroslo, expelling Sigismund Báthory. He was murdered in 1601 by Basta's orders. He was

Michaelis, Johann David (1717-91), a German Biblical scholar, born at Halle. He was educated in his native as appointed professor of

at" Gottingen, and ch. ii. deal with the restoration of the addition professor of Oriental languages in 1750. Among his works are: Supplementa ad Lexica Hebr., 1784-92; Introduction to the New Testament (4th ed.), 1823; Orientalische und exgetische Bibliothek, 1775-Camb. 85; Neue O. und E. Bib, 1786-91;
A. Small (1994). Mosaisches Recht, 1770-71; LilteraMica Schist, a schistose or finerischer Briefwechsel, 1794-96. He also

bo at Leipzig, but being attracted by poetry published, with Gellert and Weisse, a collection of fables, and soon after gave up his profession of a doctor. His works, which consist of odes, satires, lyrics, comic operas, etc., were published at Vienna in 1791.

Michaelmas Daisy, a name given by gardeners to Aster tradescantea. Known also by this name is the sea aster or starwort (Aster trifolium).

Michaelmas Day, the festival of St. Michael and All Angels, celebrated in the Western Church on Sept. 29. Michaelmas is frequently used for

dating terms, etc.
Michaud, Joseph Francois (1767-1839), a French historian and publicist, born at Albens, Savoy. He was educated at Bourg-en-Bresse, and went to Paris in 1791 where he be-came the editor of La Quolidienne, in which he espoused the royalist cause. He narrowly escaped death during the Reign of Terror, and after 1800 abandoned journalism and began to write books. He published Historie des croisades, his chef-d'œuvre; Correspondance d'orient, as a result of his visit to Syria and Egypt for the purpose of collecting material for his masterpiece; and other works.

Michaux, André (1746-1802), a French botanist and traveller, born in Sartory. He made journeys to several parts of the world, first to England (1779), from which country he introduced into France several new varieties of trees and shrubs: second, to the Auvergne and the Pyrenees (1780), bringing back several sorts of grain; third, to Persia (1782), whence he brought back a fine herbarium and valuable seeds; fourth, to N. America (1785), travelling from Hudson Bay to Florida and the Mississippi. Unfortunately nearly all his collection was lost.

Michaux, François André (1770-1855), son of the above, accompanied his father on his N. American tour, and also made another journey to that continent in 1802. He published Histoire des arbres forestiers de l'Amérique septentrionale (3 vols.), 1810-13, which has been translated into English under the title, North

American Sylva.

Michel, Francisque (1809-87). French antiquary, born at Lyons, and became professor of literature at Bordeaux. He visited England and Scotland to carry out his archeological researches. He edited old French works, such as La Chanson de Roland,

published a reprint of Lowth's Chansons de Coucy, translated Eng-Praelectiones, with important addi-tions, 1758-62, and a German trans-lations, 1758-62, and a German trans-lations of the course res des Races maudites de la ; et de l'Espagne; Le Pays

and Les Ecossais en France

et les Français en Ecosse

Michel, Louise (1830-1905), a French anarchist, born at Vroncourt in Haute-Saône. She became a teacher in Paris, but soon gave it up for social and political work. joined the Communists at the outbreak of their rising of 1871; was captured and transported to New Caledonia. On her release she re-turned to Paris and joined another anarchist rising, for which she was sentenced to six years' imprisonment. She was, however, released after three years in 1886 and soon after-wards went to London. She returned to Paris in 1895, where she died. Her works include: La Misère; Mémoires; Les Crimes de l'époque; and La

Commune.
Michel, Nicolaievitch (1832-1909), a Russian prince, was brother to Tsar Alexander II. He was governor-general of the Caucasus in 1863, fieldmarshal, and later director-general of artillery, and president of the council of the empire. During the war with Turkey in 1877 he captured Ardahan

and Kars.

Michelangelo, or Michael Angelo, Buonarroti (1475-1564), an Italian sculptor, architect, painter, and poet, born at Caprese, of an honourable and ancient, though poor, family. After being at school with Maestro Francesco da Urbino, he made friends with Francesco Granacci a pupil of Domenico del Grillandaio, with whom M.'s father, although holding art in contempt, at length allowed him to study. His talent even at this early age was very marked, so that he was chosen by Ghirlandaio as one of the youths whom Lorenzo de Medici, the Magnificent, allowed to work in his garden under Bertoldo. Here he executed the 'Faun's Head,' which so delighted Lorenzo that he took him into his establishment and treated him as his son. M. was between fifteen and sixteen years of age when he entered Lorenzo's house, and he stayed with him until his death in April 1492; whilst there he executed the basrelief called 'The Rape of Deinnira,
or 'The Battle of the Centaurs,
now in the Casa Buonarroti, Florence.
On the death of Lorenzo, M. returned to his father's house for a short time, until Pier de Medici, Lorenzo's heir, requested his presence. He left Florence on account, it is said, of a visionary premonition which one Cardiere had of the fall of the Medici, and went to Bologna, where Messer

Gian Francesco Aldovrandi befriended | turned to Florence, where he stayed him. Returning to Florence when until the Pope had sent three briefs Gian Francesco Aldovrandi befriended him. Returning to Florence when matters were settled, in 1496 he went to Rome to the Cardinal di San Giorgio, who had bought a Cupid of M.'s under the impression that it was a real antique. During his stay in Rome, M. executed a Cupid (now at S. Kensington), and a Bacchus (now in the National Museum, Florence), for Messer Jacopo Galli, and the Madonna della Pieta (now in St. Peter's, Rome), at the request of Car-Peter's, Rome), at the request of Cardinal Rovano. In 1501 he returned to Florence on family affairs, and in 1504 carved the colossal statue of David, nine braceia high, out of a block of marble, spoilt in the roughing out,



MICHELANGELO

--bably by o. This is lelle Arti,

Florence. In the same year he commenced the cartoon for the decoration of the council hall at Florence, a work on which Leonardo da Vinci was also engaged. The paintings of both have been lost. After the death of Pope Alexander VI., Julius II. called M. to Rome, and commissioned him to make his monument. The design to make his monument. The design for this work was very highly ap-proved by the Pope, and in April 1505 M. went to Carrara to superintend the

demanding his return; at length he went to see the Pope at Bologna, and received his pardon. Whilst at Bologna, he executed a portrait statue of Julius in bronze, three times life-size, which was placed on the front of the Church of San Petronio, but destroyed on the return of the Bentivogli. When M. returned to Rome, Bramante persuaded the Popo that it would be a bad omen for his tomb to be built before his death, and induced him to ask M. to paint the vaulting of the Sistine Chapel, thinking that such a work would show his genius in a less favourable light. genus in a less favourable light. Although unwilling, M. yielded to the importunity of the Pope, and finished the work, unaided, save for workmen and writers for the lettering, in twenty months. This, his greatest work in painting, represents the creation of the world, and of man, the flood, and various biblical stories. When the Sistine Chapel was completed M again became involved in pleted, M. again became involved in The Tragedy of the Tomb. On his return from Florence, whither he had gone after the completion of the gone after the completion of the chapel, he again started work on his designs for the tomb of Julius, but the death of the latter interrupted the work. Leo X., Julius's successor, ordered him to undertake the ornamentation of the façade, of San Lorenzo at Florence. This was a great disappointment to M., but his protests were unavailing, and he was also obliged to spend six years in proprotests were unavailing, and he was also obliged to spend six years in procuring marble from the quarries of Pietrasanta. In 1521 M. executed the 'Risen Christ,' now in the Santa Maria Sopra Minerva, Rome, a work which was finished and therefore marred, in details, by other hands. When Clement VII. became Pope he lost no time in setting M. to work, and by 1524 the tombs of Lorenzo de' Medici were fairly under way. These Medici were fairly under way. These were not destined to be finished, and it was not until 1535 that M. finished it was not until 1535 that M. finished what work there is of his in the building, including the grand figures of Day and Night, Morning and Evening. In 1529 he had been appointed general over the construction of the walls and defences of the city of Florence, which fell in the following year. After this 'The Tragedy of the Tomb' at length came to a close; the finished work contained only the finished work contained only the 'Moses,' by M. himself. In 1534 he was commissioned by Pope Paul to do the 'Last Judgment' in the Sisting M. went to Carrara to superintend the mished work contained only the quarrying of the necessary marble, 'Moses,' by M. himself. In 1534 he was commissioned by Pope Paul to eight months. The architect, Bradiuenced the Pope against him, and shortly after his return from Carrara he was refused admittance to the Papal antechamber. In anger, he return from the two frescoes for the walls of the

Capella Paolina, Rome, was com-the power they supply rather than pleted, representing the Martyrdom for their navigation. The state is of St. Peter and the Conversion of St. Paul. All through his life he composed sonnets when his sculpture was not going well, and he was disturbed; the best are addressed to Vittoria Colonna, the widow of the Marquis of Pescara. During the winter of N. compensates for comparative in1563-64 M.'s friends suffered great fertility. In 1911 the yield of iron ore
anxiety on his behalf, which was only from the Gogebic, Marquette and
too well founded, as he died on F
18, 1564. See Giorgio Vasari, Le.

"is, Scultor."

"Scultor."

nio Condin, Buonarroti

Scritta da A. C. suo discepolo, 1553, (1st ed., Loma); J. A. Symonds, The Life of Michelangelo Buonarroti, 1893, and The Sonnets of Michael Angelo Buonarroti and Tomaso Campanella, 1878: C. Holroyd, Michael Angelo Ruonarroti 1903, etc.

Buonarroti, 1903, etc. (1798 - 1874), a born at Paris, Michelet, Jules historian, French was the son of a printer. He was educated at the Lycée Charlemagne, and in 1823 was appointed professor of history in the Collège Rollin. His first works appeared in 1825-27, and were concerned with modern history. and in 1827 he was appointed mattre de conférences at the Ecole Normale, becoming assistant to Guizot at the Sorbonne in 1830. In 1831 he published the Introduction lished the Introduction à l'Histoire E.S.E. of Chicago, on Lake Michigan, universelle, and soon entered upon his chief

to the outbreak of the Revolution, publishing about the same time, Euvres choisies de Vico, the Mémoires de Luther, and the Origines du Droit Français. In 1838 he was appointed to the chair of history at the Collège de France, and published his lectures in Le Prétre, la Femme, et la Famille, and Le Peuple. In 1838 de Pictoria romaine appeared, and

great history he wrote, Révolution française. books on natural histo:

L'Insecte, La Mer, and La Montagne, as well as Les Femmes de la Révolu-L'Amour, one of his most Femme popular books, LaLa Sorcière, La Bible de l'Humanité, an historical sketch of religion, and Nos Fils, a treatise on education.

Michigan, a north-central state of the U.S.A., having an area of 58,915 sq. m. It is known as the Peninsula sq. m. It is known as the Femishia is nephew, he despatched him his state because of its natural division:
Into two parts, separated by the Strait of Mackinac, which connects Lakes Huron and Michigan. The chief highlands are the Porcupine Mis. (1830 ft. above sea-level) in the N.W., and the chief rivers are the Nuskegon, Grand, St. Joseph and Muskegon, Grand, St. Joseph and Kalamazoo, which are important for Zaosie, near Novogrodek in Lithuania.

agricultural, the staple crops being maize (in 1912, 55,250,000 bushels), potatoes, hay, and wheat. Fruits, chiefly apples, are widely grown, and the live stock, especially of sheep, is considerable. Mineral wealth in the

and silver mines are also worked, and Portland cement is another valuable The most profitable inproduct. dustries are the manufacture of automobiles, furniture, and machinery, and. pre-eminently lumbering. Michigan University was founded in 1837 by Ann Arbor, and in 1911 had over 5000 students. There is a Senate of 32, and a House of Representatives of 100 members, and in the national assemblies M. is represented by 2 senators and 13 representatives. Detroit is the chief town; pop. (1910) 465.766. Father Marquette, a Jesuit missionary, founded a settlement here in 1668. The state was ceded by the French to the English in 1760 and

Michigan City, a lake-port, 37 m.

17. Lake, a great lake of N. America, bounded on the N.W. and E. by Michigan, on the S. by Indiana, and on the W. by Wisconsin and Illinois. The Strait of Mackinac connects it with Lake Huron. Area 22,400 sq. m. Length 325 m; mean breadth 75 m.; mean depth, 870 ft.

Michoacan, a state of Mexico, having an area of 22.874 sq. m., and cific for 101 m.

ancitaro (12,660 peak. The chief

rivers are the Lerma and the Balsas. The staple products are minerals (gold, silver, lead, copper, petroleum, etc.), cereals, fruit, coffee, and sugar cane. Morelia (39,116 inhabitants) is the cap. Pop. 991,649.

Micipsa, King of Numidia, was the macipsa, king oi Aumidia, was take son of Massinissa, and reigned from 148 to 118 B.C. Afraid of Jugurtha, his nephew, he despatched him in 134 B.C. to Spain, to serve under Scipio. At the latter's recommenda-tion, however, he made Jugurtha joint heir with Adherbal and Hiemp-rel bisarresons.

He was educated at Novogrodek until . 1814, when he entered the university of Wilna. After passing his examinations with honours, he obtained the post of a schoolmaster at Kowno. In 1824 Novosiltzov, the cruel and in-tolerant governor of Lithuania, con-demned the members of the Philo-mathan and Philoretian societies on the most insufficient evidence, and M. was, after imprisonment, banished to Russia. He had already published two volumes of miscellaneous verse, and on his arrival at St. Petersburg, was at once received in literary circles with open arms. In 1829 he went to Germany, Switzerland, and Italy, finally taking up his residence at Paris in 1832. In 1840 he was appointed to a newly-founded professorship of Slavonic literature in the Collège de France, but he was expolled from his chair by the French government in 1844, and was without employment until 1852, when the post of librarian at the Arsenal was obtained for him by Prince Napoleon. He died of cholera at Constantinople whilst engaged in forming a Polish legion against Russia. His remains were, in 1890, removed to the Cathedral at Cracow. M. is the most in-spired poet of Poland, and the flaming ardour, the passionate sincerity, and the exquisite language of his poems. allied with their national melancholy, cause him to be by far the most popular in his own country, although, unfortunately, but little known in England. His chief works are: Konrad Wallenrod (1828), Pan Tadeusz (1834), in addition to his sonnets. Ode to Youth, etc. See Josef Kallenbach, Mckiewicz

Bardner.

Adam Mickiewicz, 1911, etc. Mickle, William Julius (1734-88), a Scottish poet, was the son of a Presbyterian minister of Langholm, Dumfriesshire. After failing in business, he became corrector to the Clarendon Press, published a Spenserian poem called the Concubine (1767, revised as Sur Marlyn), and printed a very diffuse and printed a very diffuse and rather poor translation of Camoens's Lusiad (1775). Scott's Kenilworth is based on M.'s ballad, entitled Cumnor Hall.

Micmacs, a tribe of N. American Indians, of Algonquin stock, who formerly roamed Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland. During the colonial wars they were allies of the French. They nownumber about 4000, have become civilised, but are scattered

about their former territories.

Micon (fl. 5th century B.C.), a of Pheidias. He was renowned for his coigne invented the first instrument

skill in drawing horses. His battles between the Amazons and Athenians decorated the walls of the Cerameicus and the temple of Theseus in Athens. He was also a sculptor.

Miconia, a genus of trees and shrubs of tropical America (order Melastomaceæ) with ornamental foliage and panicles of white or red flowers.

Microbe, see BACTERIA.

Microcachrys (Tetragona), straw-berry-fruited cypress, a prostrate, evergreen shrub bearing small, bright red cones (order Coniferæ). It is a native of the Tasmanian mountains.

Microcosmand Macrocosm. Arising from the belief of the ancients that the cosmos had a soul, the idea followed that the vital movements of man, the microcosm or little world, corresponded to those of the universe. the macrocosm or great world. From this astrology followed, or the belief in the idea that the movements of the heavenly bodies affect human lives. Pythagoras, Plato, the Stoics. and Paracelsus, were exponents of the doctrine. See ASTROLOGY.

Microcosmic Salt (NaNH4HPO4.

4H2O), sodium ammonium phosphate, is so called because it is formed in the evaporation of human urine, and was regarded by the alchemists as an extract of the human microcosm. is obtained by adding a strong solution of common sodium phosphate to ammonium chloride. The salt is used in blowpipe experiments since it decomposes on heating to give a glassy bead of sodium metaphosphate.

Microlestes, a genus possibly of marsupials of remote antiquity, founded on a few teeth discovered in Somersetshire and Würtemberg. Palæontologists differ as to its true

zoological position.

sa Vie

Microliths. Vitreous rocks are not altogether void of crystalline material. Under the microscope, numerous small crystallites are to be seen which may be drop-like (globulites), rod-shaped (belonites), or like coiled and twisted hairs (trichites). Besides these crystallites, exist needle- and rod-shaped bodies called microliths which are distinguished from the above by the fact that they react on polarised light (v.v.), and can be generally referred to some mineral species—felspar, augite, hornblende, olivine, etc. Combinations of simple microliths occur presenting a curious forked appearance (skeleton crystals), and their linear arrangement indicate the fluxion-structure of the rock

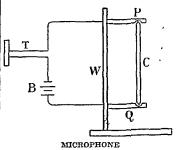
Micrometer, the name given to instruments for measuring accurately very small angles or spaces. There are several types of which the fol-Greek painter, was the contemporary lowing are the most important: Gas-

the 17th century. Ms. con-1 sist generally of two very fine wires, one fixed and the other movable, placed in the focal plane of a tele-The movable wire is fixed on a sliding plate and can be moved parallel to the other by means of a until the object appears n the wires. The movement between the wires. can be measured by means of the screw, the pitch of which is known; and the head of the screw is subdivided in order to measure fractions of a revolution. Thus the angular distance which the object subtends can be measured. In the position wire M. the two parallel wires are actuated by independent screws. The whole apparatus can be rotated in the plane of the wires, so that they can be placed in any direction, the angle through which it is rotated being measured upon a small circle called the position circle. Another type consists of an object glass divided into two semicircles, which can be separated by sliding, so causing the image formed respectively by each half lens to move. Dollond introduced a convex lens divided similarly to the above into the eye-piece of the telescope. Various other types which depend on the phenomenon of double refraction have been introduced. The circular M., perfected by Fraunhofer, consists of a metal ring set in a perforated glass plate. The ring is placed in the focal plane of the telescope; the time when a star disappears at the outer ring and reappears at the inner ring being observed. This is chiefly used for determining the positions of stars. They are capable They are capable positions of stars. of measuring to a hundredth part of a millimetre. See I Micronesia (from See HELIOMETER.

Micronesia (from Greek, small islands), the name of that part of the Pacific Ocean between long. 130° and 180° E. and lat. between 20° N. and the equator, which embraces the Ladrone and Caroline islands, the Marshall and Gilbert archinelagoes. The groups are described

under their separate titles.

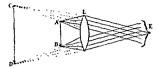
Microphone, The was invented by Professor Hughes, and is now uni-versally used as the transmitter in telephony. Hughes found that if a telephone receiver were placed in series with a resistance formed by a bad contact made of three looselyfitting pieces of carbon, then any motion given to one of the pieces would produce a sound in the receiver. A simple form of the instrument consists of two pieces of carbon P and Q (see figure) fixed to a vertical piece of wood W, and a carbon rod C and the receiver T. If C moves the resistance of the alters. circuit causing an abrupt change in the current which produces a sound in T. The transmitter in general use consists of a vibrating plate of carbon Another piece fixed round its edges. of carbon is placed behind it, the intervening space being filled with small pieces of the same substance.



This forms the bad contact. The carbon plate is usually protected outside by a piece of wire gauze.

Microscope, an optical instrument which enables the eye to see dis-tinctly magnified images of small objects which would otherwise remain unobserved. The term magnifying needs some explanation in order to show the function of the lenses of a microscope. In cases of this kind, magnification is obtained by allowing the eye to approach nearer to the object. For example, a bill posted or the object of the a bill posted on the other side of the street cannot be seen distinctly enough to be read, but on nearer approach the type becomes more and more plain. This is a simple case of magnification. The eye accommodates itself to the varying distances until a distinct image is There is a formed on the retina. limit to the eye's power of accommodation, as may be observed from the fact that if approach is made to the bill nearer than ten inches, the type again becomes confused. If a soagain becomes confused. called magnifying glass be interposed between the eye and the bill, the type again becomes distinct. Thus type again becomes distinct. the function of the lens or magnifying glass is simply to allow the eye to approach nearer the object than would otherwise be consistent with distinct vision. The action of the lens may be explained as follows: In the figure L denotes the lens, E the eye, and AB the object placed in the focal plane of the lens. In the absence of the lens the rays of light itting very loosely between them. absence of the lens the rays of light This is connected to the battery B are inclined to the axis of the eye at

too great an angle to be completely differs somewhat from the above focussed on the retina, and hence the confusion in what is seen. The lens intercepts the rays, and bends them into parallel rays which appear to



come from CD, a position consistent with distinct vision. The rays are now focussed completely on the the retina, and distinct vision is obtained. The eve in this case views the image CD and not the object AB.

Clearly, from the diagram the lens appears to remove the object away from the eye. This leads to another consideration in the making of a microscope. It is a matter of common experience that the further away an object is, the less brilliant it appears to be, the reason being that the pencil of rays is so large that they do not all enter the eye. the above discussion we have assumed that all the rays through L enter the eye. But it is found that when a large pencil passes through a lens it suffers a good deal of distortion due to the spherical shape of the lens. This distortion is termed spherical aberration. To obviate this a stop is placed behind the lens so as to is placed bening the long so which cut off the extreme rays which cuffer the most distortion. There is another effect due to chromatic aberration, which renders the edges of the image indistinct. This is also obviated by cutting out the extreme obviously reduces the size of the pencil of light entering the eye, and thus the maximum quantity of illumination is not attained. The stop was eventually discarded in favour of a system of lenses which are so arranged that the rays are are so arranged that the rays are refracted at smaller angles through each of them, and thus eliminating to a large degree the effects of aberration, whilst allowing the whole pencil of light emitted to be conveyed to the eye with very little loss in intensity. Wollaston's doublet was the first combination. doublet was the first combination of two lenses for this work. It consists of two lenses placed at a definite distance apart. Thus by increasing the number of lenses the aperture is increased, and thus more light free from aberration effects enters the eye, and a distinct, well-illuminated in the same in these are the main. image is seen. These are the main for leading the cutting instrument to principles underlying the theory of the block by a sliding arrangement the simple M. The compound M. whose motion is exactly governed by

and affords a greater degree of magnification. Its essential features magnification. Its essential features are the objective and the eye-picce. The objective is the system of lenses near the object, forming a real image of the object This is observed through the eye-piece, which forms a virtual magnified image of this real image. The objective consists of a system of lenses to minimise substitution of the system of th spherical and chromatic effects which in this case would be very large

which in this case would be very large owing to the nearness of the object to the objective. Various combinations have been used. The most effective objective is the one invented by Abbe, by means of which almost perfect images were obtained. The object is imwere obtained. The object is immersed in oil, into which the plane surface of the lowest lens dips, the refractive index of the oil being the same as that of the lens. There are two types of eye-piece in general use, viz. Huyghens and Ramsden. The Huyghens eye-piece is the one generally used, but where measurements have to be made which necessitates the introduction of a misconstance. sitates the introduction of a micrometer scale into the instrument the Ramsden's eye-piece is used. Huyghens eye-piece consists of two converging lenses whose focal lengths are in the ratio 3:1, and placed at a distance from each other equal to the difference of their focal lengths. The Ramsden eye-piece consists of two lenses of equal focal length separated by a distance two-thirds of their focal length. The object is generally illuminated by means of transmitted light. There is no limit to vision. Any particle, however minute, can be observed so long as it can be illuminated. If its length is less than half a wave-length of light, it is illuminated by focussing an intense beam of light upon it, and

then viewed through a M., when it appears as a bright spot.
Microscopium (the Microscope), a southern constellation formed in 1752 by Lacaille, situated above Grus and Indus at the junction of Capricornus

and Sagittarius.

Microstylis, a genus of terrestrial orchids with handsome leaves, and small greenish-yellow or purple

flowers.

Microtome, an instrument adapted for cutting fine sections of material preparatory to observation under the microscope. There are many varieties, but the essential part of the instrument is a device for leading an embedding block containing the material to a cutting instrument, or graduated screws. The embedding block is usually composed of paraffin or some similar substance in which the material to be examined can be immovably embedded and protected from air and damp. The height of the block is determined after once cutting it in the M., after which its height can be adjusted by screws, so that a section with a uniform thickness of as little as '602 mm. can be cut. Some of the more expensive Ms. are to a high degree 'automatic.'

Midas, son of Gordius and king of Phrygia, renowned for his immense riches. In consequence of his kind treatment of Silenus, the companion and teacher of Dionysus, the latter allowed M. to ask a favour of him. M. in his folly desired that all things which he touched should be changed into gold. The request was granted: but as even the food which he touched became gold, he implored the god to take his favour back. Dionysus accordingly ordered him to bathe in the sources of the Pactolus near Mt. Tmolus. This bath saved M., but the river from that time had an abundance of gold in its sand. Once when Pan and Apollo were engaged in a musical contest on the flute and lyre, M. was chosen to decide between them. The king decided in favour of Pan, whereupon Apollo changed his ears into those of an ass. M. contrived to conceal them under his Phrygian cap, but the servant who used to cut sab, but the servant who used to cut his hair discovered them. The secret so much harassed the man that, as he could not betray it to a human being, he dug a hole in the earth, and whispered into it, 'King Midas has ass's ears.' He then filled up the hole,

of Zeeland, Netherlands, on the island of Walcheren, 4 m. N. of Flushing. It has an old abbey daing from the 13th century. It was a Hanse town, and its charter dates from 1225. Pop. 19,564. 2. The cap. of a district of the same name, in the Transvaal, S. Africa, on a trib. of the R. Olifant, 98 m. E. of Pretoria. Pop. (Europeans) 3700. 3. The cap. of a div. of the same name, Cape of Good Hope, S. Africa, 250 m. N. by W. of Port Elizabeth, in a fertile agricultural district. Pop. 4000.

Middle Ages, The, a term generally applied to the period between 500 and 1500 a.p., though frequently it is used to designate the centuries between the year 1000 and the Renaissance. It is better, however, to use the year 1000 as the dividing line between the early and later M. A. The year 500 roughly marks the inrush of the barbarian hordes. An attempt to stem the flood of ignorance and barbarism

The embedding posed of parafin stance in which xamined can be id and protected The height of the fire rone cutting ich its height of the fire rone cutting ich its height can be, so that a sectification is, so that a sectification is and king of large and king large and kin

Middleboro, a tn. and summer resort in Plymouth co., Massachusetts, U.S.A., 35 m. S.E. of Boston; has manufs, of shoes, woollens, iron goods, and tiles. Pop. (1910) 8214.

Middle Caraquet, at n., Gloucester co., New Brunswick, Canada, 12 m. W.N.W. of Shippegan. Its chief industries are flour, lumber, and canneries. Pop. 6100.

Middle Franconia, see Franconia.
Middle Lattude, in navigation, the
mean of two lattudes. It is the distinctive name of a method called in
navigation M. L. sailing, which means
that, in estimating the differences of.
longitude by means of the differences
of latitude and the intermediate departure, this departure is supposed
to be an arc of a parallel of longitude
at the intermediate or M. L. (see
Riddle's Navigation, in which a table
may be found corrective of the
results.

Middle Park Plate, see RACE MEET-

Middlesboro, a city in Bell co., Kentucky, U.S.A., 64 m. N.N.E. of Knoxville, Tennessee; has coal and iron mining. and manufs. of steel, brick, and beer. Pop. (1910) 7305.

Middlesbrough, a thriving and important manufacturing tn., riverport, and municipal, co. and parl. bor. of England, in the N. Riding of Yorkshire, at the mouth of the Tees, 20 m. S. W. of Durham, on the Stockton and Darlington Railway. The town is of recent growth, the first house having been built in 1830. It was incorporated in 1853. It is now chiefly known as a rapidly progressing centre for the iron manuf. There are also chemical, brass, engine, and bottle works, potteries, and blast-furnaces; shipbuilding is also carried on, and iron-stone is quarried in the vicinity. There are large docks, and among the manufactures are sailcloth, rope, and pottery. Pop. (1911) of parl, bor. 139,321.

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England, has an area of 279 sq. m. The county belongs entirely to the basin of the Thames, which forms its S. boundary. The Lea flows along its E. boundary, and the Colne bounds it on the W. A range of hills extends along the Hertfordshire border, reaching 500 ft. at Stanmore and Harrow, but that portion of the county which lies S.W. of a line drawn from Brentford to Uxbridge is an almost unbroken flat, scarcely rising more than from 10 to 20 ft. above the level of the Thames. The county is intersected by the New R. and the Paddington and Grand Junction canals. The cap. is Brentford. Market gardening is the chief industry. The county is divided into seven parlia-mentary divisions, each returning one member. There is a small-arms factory at Enfield, and government powder mills at Hounslow. Pop. (1911) 1,144,758.

Middle Temple, see INNS OF COURT. Middleton, a municipal bor. of Lan-cashire, England, 5 m. N.N.E. from Manchester. It is an important seat He edited several journals, and pubof the cotton and silk manufs. and chemicals are manufactured

calico printing is carried on. are coal mines and iron works.

1911) 27,983.

English divine and controversialist, born at Richmond in Yorkshire, or at York itself. He was a flerce and bitter controversialist, and among his best known pamphlets are: A Letter from Rome, 1729; and An Inquiry into Miracles, 1748. He anticipated the method of historical criticism applied to the O.T. stories. His best work is the interesting and valuable Life of Marcus Tullius Cicero, 1741.

Middleton (or Myddelton), Sir Hugh (c. 1560-1631), an English engineer, born at Denbigh, N. Wales. In 1606 he made an offer to parliament to bring drinking-water, of which there was a great scarcity, to London. In 1609 the first sod upon the works of the New R. was turned, and in 1613 in voite of strenuous opposition from the landowners and financial difficulty, t to the

The ori from the Chadwell and Amwell, and Chester. after a course of 381 m. entered a reservoir at Islington.

Middleton, John Henry (1846-96),

rk. Οſ

Middlesex, the metropolitan co. of | South Kensington Museum. Besides many valuable contributions to the Ency. Brit., he wrote Ancient Rome, 1895; Remains of Ancient Rome, 1892; Illuminated MSS. of Classical Times,

1892.

Middleton, Thomas (1570-1627), a dramatist, of whose early life little is known. He wrote plays by himself, and also in collaboration with Drayton, Webster, Munday, Dekker, and Rowley, and besides plays, com-posed many pageants and masques. The first play written by himself was The Chester Tragedy (1602). He was at his best when writing comedies of manners, his satire being keen and his dialogue admirable. One of his plays, A Game of Chess (1624), acquired the distinction of being objected to by the Spanish ambassador on political grounds. His works were first collected by Dyce in 1840.

Middleton, Thomas Fanshawe (1769-1822), Bishop of Calcutta, born at Kedleston, Derbyshire. After holding various livings, he was con-secrated bishop of Calcutta in 1814.

> 4rticle Illus-808.

in the Eng-

Middleton, or Midelton, a market land, on the R. Tees; has lead mines. to. of Ireland, in the co. of and 13 m. E. of Cork; has a whisky distillery and flour-mills. Pop. (1911) 3500.

Middleton, Conyers (1683-1750), an Inchibit Myrine and controversibility. U.S.A., on the Connecticut R., 16 m. English, divine and controversibility. Middletown: 1. A city and the co. seat of Middlesex co., Connecticut R., 16 m. S. of Hartford. It is the seat of a Wesleyan

of cotton machinery

machinery plate, and rubber. Pop. (1910) 20,749. 2. A city in Orange co., New York, U.S.A., 57 m. N.N.W. of New York City, in a rich agricultural district. Manufs, include straw hats. hardware, and cigars. Pop. (1910) 15,313. 3. City in Butler co., Ohio, U.S.A., on the Miami R., 35 m. N. of Cincinnati, with manufs. of tobacco, paper, bicycles, steel and agricultural instruments. Pop. (1910) 13,152. 4. Tn. in Dauphin co., Pennsylvania, U.S.A., on the Susquehanna R., 9 m. S.E. of Harristen and R., 19 m. S.E. of Harristen and R. (1914) 1916 burg; has flour and planing mills, and manufs. cars, stoves, iron tubes, furniture, leather, etc. Pop. (1910)

" ddlewich, a market town in ter. There are chemical works England, 21 m. and a condensed milk factory.

is produced. Pop. (1911) 4910.
Midges are small dipterous insects (tribe Nemocera). They differ from the gnats or mosquitoes in the absence m- of their long, slender, horny probos-bridge, and in 1892 art director of the cis. Most of them are quite harmless.

Midhat Pasha (1822-84), a statesman, born in Constantinople. His first important mission was to subdue the brigandage in Rounelia; on returning was promoted to the returning was promoted to the supreme council, and then made governor of Bulgaria. In 1860 he was made Pasha. He visited several of made Pasna. He visited several of the capitals of Europe, and then re-turned to frame the laws of the vilayets. In 1864 he was made governor of the vilayet of the Danube, and endeavoured to recon-cile the Bulgarians to the Ottoman He was twice Grand supremacy. Vizier, once under Abdul Aziz (1871), and Abdul Hamid II. (1877). Midhurst, a market tn. of Sussex,

England, on the Rother, r, 11 m. It has a N.N.E. of Chichester. grammar school (1672) and the King VII. sanatorium. Edward Pop.

(1911) 1700.

Midi, Canal du, or Canal du Lan-guedoc, a canal of France, connecting the Garonne with the Mediter-

mig the Garonne with the medical ranean. Length 150 m.

Midi, Dent du, a mountain of the Alps. S. of Lake Geneva, between the Swiss valleys of Chambéry (N.W.) and Salvan (S.E.). It was first ascended in 1784 by Clement, curé of Chambéry

Midi, Pic du, a bold peak of the Pyrences, S. France, 6 m. S. of Bagneres-de-Bigorre. Alt. 9465 ft.

Midianites, an Arab race, descended, according to Gen. xxv. 2, from Midian, the son of Abraham, and his Arab wife, Keturah. They occupied the land to the S. of Moab and Edom. Joseph was sold to Midianite merchants (Gen. xxvii.); Jethro, priest of Midian, was the father-inlaw of Moses (Exod. iii.). The M. frequently united with Moab against the Israelites (Num. xxii.). They were crushed by Gideon (Judges vi.-

were crushed by Gideon (Judges vi.-viii.). Their national god was Baal-Peor. See Sir R. Burton's Midian Revisited. 1879.
Midland Railway of England, The, established in 1844, being an amalga-mation of the North Midland, Mid-land and Counties, Birmingham and Derby, and other lines. In 1868 the system was extended from Bedford to London the Midland trains having to London, the Midland trains having previously reached London from Hitchin on the Great Northern lines.

but the females of some minute species of the genus Ceratopogon lave the mouth highly developed, and with pointed lancet-like organs are able to draw blood. A typical M. is Chironomus plumosus, the aquatic larva of which is the blood worm. Many of the gall M. (Cecidomyido, including the hessian fly and the wheat M., are serious plant pests.

Midhat Pasha (1822-84). a stateslength of 2631 m., and partial owner-ship of 451 m. (County Donegal Railway). There are large docks at Heysham, Lancashire sham, Lancashire, for the cross-channel service between England, Belfast, and the Isle of Man. In 1912 they sought parliamentary powers to absorb the London, Tilbury, and

Southend Railway. Midleton, William, St. John Brodrick, ninth Viscount (b. 1856), an English statesman, educated at Eton and Oxford. From 1880-85 he was M.P. for W. Surrey on the Conserva-tive side, and from 1885-1906 repre-sented the Guildford division of Surrey. From 1886-92 he was Financial Secretary to the War Office; Under-Secretary of State for War from 1895-98; Under-Secretary of State 1898-1900 : for Foreign Affairs, 1898-1900; Secretary of State for War, 1900-3; Secretary of State for India, 1903-5; and since 1907 alderman of the London County Council. ceeded to the title in 1907.

Midlothian, sec Edinburghshire. Midnapur, cap. of a dist. of the same name in the Bardwan div. of Bengal, India, on the Kasai R. The trade is largely in indigo, silk, and

brass and copper ware. Pop. 34,500.
Midnight Sun. At the summer solstice, about June 21, the sun does not set but sinks to the N. point of the horizon at midnight at the Arctic Circle. At North Cape in Norway It is visible at midnight from May 12 to June 29. This phenomenon is to June 29. This phenomenon is called the M. S., and the N.W. coast of Norway the 'land of the midnight sun.' Owing to the inclination of the rotational axis of the earth from the normal to the orbit, the sun is constantly visible during the summer at and within the Arctic and Antarctic circles for a period of forty-eight hours to six months, according to

distance from the poles.

Midrash, the oldest Hebrew exposition of the O.T. which, for 1500 years after the explanations of scriptural passages and became the basis of rabbinical teaching. It was divided into the 'Halchah.' was divided into the 'Halachah.' which dealt with civil and religious law and ordinances, and the 'Haggadah,' the whole body of the narra-tive of the O.T.; to this latter part Steinschneider, Jewish Literature, of Savoy. 1857.

Midriff, see Diaphragm.

Midshipmen, young men ranking the highest of the first class of petty officers on board a ship of war; their duty is to pass to the seamen the orders of the captain or other superior officer, and to superintend the performance of the duties so commanded. They are educated for their profession at the Royal Naval College. By the regulations of 1833, the whole number allowed to be entered on board a ship of war varies according to the rate of the latter. A passed midshipman is ready for promotion to the rank of lieutenant.

Midsomer Norton, a par. 9 m. S.W. of Bath, Somersetshire, England. It has a Roman Catholic college (1814). There is trade in coal. Pop. (1911)

7300.

Midsummer Day, June 24, summer solstice, and one of the four English term days.

John the Baptist's Day. See St. 12 genre pancer, but he is been John. Eve of. 1 historian.

der neder.

Midwifery (O.E. mydwyve, from 1 historian.

A.-S. mid, with, and wif, woman. procharterboek der graven van Holland, perly the woman or wife with or van Zeeland en heren van Vriesland, attendant upon a woman in child-1753-56.

Birth) deals with the care of women in childhieth M existed as far hack of Frans the Elder, was a genre children of Israel, and among the was, but his work is inferior, ancient Greeks it reached a high state of excellence. In the middle ages the Italian painter, born at Alexandria, science of M. fell into decay, but in and studied under Brera and Galeari. the 16th century several works were He painted views of towns and build-multiple ages where the state of the state published enumerating principles.

principles. As a strict medical science, M. dates 18th century, previous t matter was left as strictly province. To-day the of midwives by the ste

thorough, and training cates are essential to all who practise the tn. of Cantanzaro, on the R. M. The Midwives Act of 1902 regulated the craft, and gave power to the Mignard, Pierre (1610-95), a French local authorities to average the necessity portrait painter, brother of Nicolus local authorities to exercise the necessary control over the M. of their districts. The central board has the right to right to delete names from the register of those who do not satisfy the regulations.

Michowitz, a tn. in the prov. of Silesia, Prussia, 3 m. W. by N. of Beuthen. It has deposits of zinc and

iron. Pop. 9269.

Miedzyrzec, a tn. in the gov. of Russian Poland, on the

Krzna R. Pop. 15,000.
Miel, Jan called Giovanni dello
Vite (159-1664), a Flemish painter,
who studied under Andrea Sacchi at He excelled in his studies religioux. of pastoral scenes, hunting parties, works at Petit-Montrouse. Gipsies, etc. He became court works are: Encyclopédie théologique:

the term M. is usually confined. See | painter to Charles Emmanuel, Duke

Mier, a tn. in the state of Tamaulipas, Mexico, on the Rio Grande del Norte, 80 m. E.N.E. of Monterey. Pop. 7000.

Mieres, a tn. in Spain, in the prov. of and 9 m. S.E. of the city of Oviedo. It has coal, iron, copper, and cinnabar mines, and chemical factories.

18,000.

Miereveld, Michel Jansen (1568-1623), a Dutch painter, born and died He studied under the en-Jerôme graver Wierix, and painter Blocklandt. He produced an enormous number of careful portraitand a few interiors.

Mieris, Frans (1635-81), called the Elder, a Dutch painter, born at Delft. and died at Leyden. He studied under Gerard Douw. His works are mainly portraits and domestic scenes, and

àre highly valued.

Mieris, Frans (1689-1763), the Younger, the son of Willem, and also It is also St. a genre painter; but he is better Day. See ST.

in childbirth. M. existed as far back of Frans the Elder, was a genre as history goes; it existed among the painter like his father, whose pupil he

py in his ne court Among momo of St. Am-Milan. a, Italy. N.W. of

the tn. of Canusians, Lamato. Pop. 7000. Mignard, Pierre (1610-95), a French portrait painter, brother of Nicolus M., the engraver (1606-68), born at Paris, and later at Rome. He painted portraits of Pope Alexander VII. and many Italian princes. In 1657 he was summoned to Paris by Louis XIV., and on the death of Le Brun suc-

ceeded to all that artist's positions.
Migne, Jacques Paul (1800-75), a French author and theologian, born He was ordained in at St. Flour. 1824, and soon afterwards published De la Liberté. It was so crificised that he went to Paris and there started the paper called L'Univers religiour. He then opened printing works at Petit-Montrouge. Other logic latine: Patrologic greeque; and stations, especially that established Scripturæ sacræ cursus completus.

Mignet, François Auguste Marie (1796-1884), a French historian, born Marie at Aix in Provence. In 1822 he went to Paris and published his Histoire de la révolution française, 1824 (Eng. translation, 1826). In 1830, in contranslation, 1826). junction with his friend Thiers, M. the Liberal journal In 1836 he was admitted National.into the Academy. He published Vie de Franklin, 1848; Histoire de Marie Stuart, 1851; Charles Quint, 1854; Rivalité de François I. et de Charles V., 1872-75, and the romantic drama Antonio Perez et Philippe II., 1845-46 See Life (in French) by Petit (1889).

Mignonette (Reseda odorata), a valuable and very sweet-scented garden plant, a native of N. Africa. The natural colour of the racemes of

flowerets is yellowish green, but there are reddish hued varieties.

Mignot, Louise, see Denis, Louis MIGNOT.

terms Migraine, or Hemicrania, employed to denote a group of symptoms of which the most distressing is The disease is a severe headache. paroxysmal in character, and usually commences with a dull aching on one side of the head between the cheekbone and the temple. The pain grows gradually more intense, and the patient develops hyperæsthesia, or excessive sensibility. There is also a painful degree of nausea, often leading to vomiting, and the patient may complain of various pains, seated in widely separated parts of the body. In many cases there are indications of hysteria, and little reliance can be placed upon the statements of the patient, who may suddenly recover and appear in quite good health after having been apparently in a state of extreme exhaustion a few minutes before. Visual disturbances and illusions are characteristic. Little is known of the cause of M. It may be simply a form of neuralgia in which the optic nerve is involved. It is put down by some to eye-strain, though many cases show no history of anything approaching excessive use of the eyes. Sir W. Gowers looks upon it as a form of epilepsy. It is common in, though by no means confined to, individuals of a highly strung and badly balanced nervous constitution.

Migration of Animals, a periodical movement from one district to another, mainly regulated by the food supply. It occurs in a large variety of animals, but most consistently among birds; in fact, it is believed that nearly every bird migrates in some part of its range. Much valuable information has been

Patrologia cursus completus; Patro-1 of bird marking and observation in Heligoland by Herr Gatke. Large numbers of birds are caught and liberated after metal rings have been fixed on their legs, the return of which with particulars and date of capture. are invited. Apart from the enormous distances which many birds have been proved to travel, one of the most remarkable facts elucidated is that birds of a species (e.g. skylark) some-times cross in their line of M. Some settling in districts which others have just left. The regularity of migratory movements is wonderful in such birds as the puffin or the swift, but spasmodic or irregular Ms. occur on various occasions most notably in 1863 and 1888, when Pallas's sand grouse, a native of the plains of Tartary, invaded Britain in great numbers. Similarly the averable and the Similarly the crossbill and the waxwing make occasional incursions. Though it is scarcely credible, more than one species of Lepidoptera annu-ally migrates over the North Sea. Crabs and lobsters and some molluscs are known to move considerable disnumber of fish (e.g. the salmon) are anadromous in habit, that is, they live in the sea, but enter fresh water to spawn and afterwards again descend to the sea; while on the other hand the eel spawns in the deep sea, and does not return, the young entering the rivers as elvers. In the search for safe breeding grounds, most of the aquatic mammals migrate long distances from their usual haunts. Many other mammals make fairly regular Ms., being regulated movements their primarily by the changes of the šeasons.

Miguel, Johannes von (1829-1901), miguei, Johannes von (1829-1901).

a German statesman, born in Neuerhaus, Hanover, and educated at Heidelberg, and Göttingen. In 1864 he was elected a member of the Hanoverian Diet, and in 1888 he entered the Reichstag, and in 1890 became Prussian Minister of Finance, showing himself an able financier, and ing himself an able financier, and securing the adoption of a new tax system which both benefited the working classes, and increased the

revenue. Miguel, Dom Maria Evaristo (1802; 66), the usurper of the throne of Portugal, was born at Lisbon, the third son of King John VI. He plotted the unsuccessfully throw of his father and the constitution of 1822. In 1826 his stitution of 1822. In 1826 his brother, Dom Pedro, succeeded to the throne of Portugal, but abdicated in favour of his young daughter, In Maria, whom he betrothed to Miguel, who had been appointed regent. collected in recent years by the work | Miguel immediately overthrew the

constitution, and had himself pro-claimed king in 1828. After a six years' struggle he was defeated and banished by Pedro.

Miguelturra, com., New Castile, Spain, in the prov. of, and 3 m. S.E. of the city of, Ciudad Real.

Pop. 6800.

Migulinskaya Stanitsa, a vil. in the ter. of Don Cossacks, Russia, on the l. b. of the Don, 220 m. E. by S. of Kharkov. Pop. 30,000.

Miharu, a in. in Japan, 145 m. N.N.E. of Tokio, Pop. 6000.

Mijas, a in. in the prov. of, and 16 m. S.W. of the city of, Malaga, Spain.

Pop. 6500.

Mikado, the former title of the emperors of Japan, for which the Chinese 'Tenshi' (Son of Heaven), or 'Tenno,' has recently been substituted in general use. The present M. in

.having begun to reign in 660 B.C. Mikania, a large genus of evergreen climbing plants (order Composite), natives of tropical America. M. scandens will grow on a trellis in the

lin

he gov. and Russia. has tanneries, candle factories, and

nursery gardens. Pop. 10,000.

Mikkelsen, Capt. Einar (b. 1880), a
Danish polar explorer; in 1907 was
instrumental in helping to disprove
the polar land theory as in 72° N.
lat. and 150° W. long. a sounding 339
fathoms foiled to reach the hoteless. fathoms failed to reach the bottom. In 1909 M. and Iversen set out in the Alabama in search of Mylius Erichsen's records, the main body of the expedition returning without them. Their safety was despaired of, but after accomplishing their object they reached Europe in 1912, after spending the previous winter on Bass Rock. Sec M.'s Lost in the Arctic (1913). He has also published Conquering Arctic Ice.

Miklosich, Franz von (1813-91), a Slavic philologist, born at Lutten-berg, Styria. From 1850-86 he was berg, Styria. From 1850-86 he was professor of Slavic philology in the university there. His chief works are: Vergleichende Grammatik der slawischen Sprachen (1871-79); Lexicon Palæoslovenico Græco Latinum (2nd ed.), 1865; Etymologisches Wörter buch der slawischen Sprachen, 1886; Altslowische Lautlehre (3rd ed.), 1878.

Miknas (in Morocco), see MEKINEZ. Mikultschütz, a vil. in the prov. of Silesia, Prussia, 6 m. W. of Beuthen. Pop. 14,184.

Mila (ancient Milevum) a tn. of Algeria, in the prov. of, and 27 m. N.W. of the city of, Constantine. Pop. 10,000 (Europeans 400).

Milan (It. Milano): 1. A prov. of N. Italy, 1221 sq. m. in area, bounded by the rivs. Po, Ticino, and Adda, which are connected by numerous canals. The chief products are corn, cice, cheese, butter, cattle, silk, fruit, and wine. The surface is almost entirely a fertile plain. Pop. 1,727,913. 2. The chief city of Lombardy, stands on the R. Olona, in the centre of the great plain of Lombardy. The city, which is almost circular, is encom-passed on three sides by walls and low ramparts; it has a circuit of about 7‡ m., and is entered by ten gates. Notwithstanding its great antiquity, M. possesses but few remains of its early splendid structures. Modern M. is one of the most opulent and populous cities of Italy; its best streets are regular, wide, and well paved, and kept with scrupulous care. M. abounds in churches worthy of note: of these, the principal is the famous Gothic cathedral, the Duomo, which, with the exception of St. Peter's in Rome, is the most magnificent ecclesiastical structure of Italy. Within it Napoleon was crowned king of Italy Besides the Duomo may be in 1805. mentioned the church of St. Ambrose (founded by that saint in the 4th century), the most ancient in M., containing inscriptions, sarcophagi, and monuments full of antiquarian interest; and the Dominican church of Santa Maria delle Grazie, which contains in its refectory the famous 'Cenaclo,' or 'Last Supper,' by 'Cenaclo,' or 'Last Leonardo da Vinci. Among the secular buildings of M., the most noteworthy is the magnificent Brera Palace, now used as a museum and library; it has also attached to it an observatory and a botanical garden. The charitable institutions are numerous and splendidly endowed; the Ospedale Maggiore, or Great Hospital, founded by the ducal house of Sforza in 1456, accommodates 2000 patients.

Scala, which can accommodate 3600 spectators. M. carries on an immense inland trade in grain, rice, winc, and cheese, and has considerable manufs. of silk goods, ribbons, cutlery, and porcelain. Pop. 599,200. Milan I. (1854-1901), a Prince of

Servia from 1868-82, and King of Servia from 1882-89, was born at Jassy, in Roumania. On the assas-Jassy, in Roumania. sination of his uncle, Prince Michael Obrenovitch (1868), M. was pro-claimed Prince, and ruled under a regent till he came of age in 1872. In 1876 he allied himself with Russia, and declared war against Turkey, winning the independence

of Servia, and the kingship for himself in 1882. In 1889 he abdicated in favour of his son, Alexander, and retired to Paris. In 1894 he served as commander-in-chief of the Servian army for a short time. He died at army for a short time. He died at Vienna.

Milanion, see ATALANTA.

Milanon, see Atalasta.
Milasa, or Milas, a tn. in Turkey,
Asia Minor, \$4 m. S.S.E. of Smyrna;
a centre of carpet manuf. Pop. 13,000.
Mila y Fontanals, Manuel (18181884), a Spanish scholar and author.

He studied first at Barcelona and then at Cervera, obtaining a pro-fessorship of literature at the Uni-versity of Barcelona when 27 years old. Amongst his publications may be mentioned De la Poesia heroico-popular castellana (1873), and his treatise De los trovadores en España.

Milazzo (ancient Myla), a seaport tn. in the prov. of Messina on the N. coast of Sicily. The older portion of the town rests upon a hill, whilst the more modern portion occupies an isthmus. There is a good harbour, and the principal exports are tunny fish, fruit, silk, olive oil, and wine. Garibaldi defeated the Neapolitans in 1861. The Gulf of Milazzo extends for 16 m., and has been the scene of

many naval engagements.

Mildew, a name for a variety of microscopic parasitic fungi. Ms. are of very serious economic importance. For example, American gooseberry M. was not observed in Britain until the year 1900, but since then it has spread throughout Northern Europe and is now seriously Northern Europe and is now seriously impeding the cultivation of gooseberries. Rose M., strawberry M., and hop M. are allied species. Treatment with sulphur in powder or in solution as a salt checks the spread of most Ms. Mildmay, Sir Walter (1529-S9), born at Chelmsford. He became M.P. at the age of thirty-three, and was made Chancellor of the Exchequer thirteen years later. He was the founder of Emmanuel College, Cambridge

Cambridge.

Mildura, anirrigation dist.

Victoria, Australia, is 375 m. distant from Melbourne. Pop. 4000.

Mile (from Lat. mille, a thousand), was originally a Roman lineal measure of 1000 paces (see PACE). It has long been used as a measure of length English-speaking countries, but with varying meanings. Similarly, on the Continent of Europe the length of the M. varied with each country, often with each district, being usually some modification of the Roman M. The length of the legal M. in the British empire and the United States of America is now 1760 yds. For a nautical mile see KNOT and Log.

Mileage, in U.S.A., is compensation for travelling expenses allowed to public officers travelling to the seat of government. The members of Congress are allowed M. at the rate of 20 cents per mile to and from the seat of government, the distance usually allowed being the shortest route. In addition to this members of Congress are paid \$7500 per annum. All European countries now compensate the members of their legislatures by payment of salary, or allowing travelling expenses, or both.

Mile End, a par. of Stepney, co. of London, England, divided into New

Town and Old Town, with respective pops. of 11,300 and 107,600.

Miles, Sir Herbert Scott Gould, K.C.B., C.V.O. (b. 1850). He entered the army in 1869; colonel, 1893; served in S. African War as deputy adjutant - general; quartermaster-general of the forces, 1908-13; and governor of Gibraltar, 1913.

Miles, Nelson Appleton (b. 1839), an American soldier, born in Westminster, Massachusetts. He entered the army in 1861 and served with the Federals in the Civil War. became brigadier-general of volunteers in 1864, three years later holding the same position in the regular army. In 1895 he became commanding general of the U.S.A., in succession to General J. McA. Schofield, and was conspicuous in successfully dealing with the Indian outbreaks of the Cheyennes and Comanches, the Sioux in Montana, the Nez Perchés, and the Apaches. In 1898 he directed the military operations of the war with Spain. He retired from active service

Spain. He retired from active service in 1903. He published: Personal Recollections; Military Europe; and Observations Abroad.
Mileto, a tn. in the prov. of Catanzaro, Italy, 40 m. N.N.E. of Reggio; destroyed by an earthquake in 1908, when 2300 lives were lost.
Miletus: 1. Son of Apollo and Aria of Crete; fled from Minos to Asia, where he built the city of Miletus. Ovid calls him a son of Apollo and Deione, and hence Deionides. 2. One Deïone, and hence Deïonides. 2. Onc of the greatest cities of Asia Minor, belonged ter

tically to I most of the

confederacy in flocks, and the city was celebrated for its woollen fabrics, the Milesia vellera. At a very early period it be-came a great maritime state, and founded numerous colonies. It was the birthplace of the philosophers Thales, Anaximander, and Anaximenes, and of the historians Cadmus and Hecatæus. It was the centre of the great Ionian revolt against the Persians, after the suppression of

which it was destroyed (494 B.C.). It soldier's military education, as such, recovered sufficient importance to varies according to the branch of the onpose a vain resistance to Alexander the Great, which brought upon it a Under the Roman second ruin. empire it still appears as a place of some consequence. Its site is now deserted.

Milfoil, or Yarrow (Achillea millifolia), a plant with thrice-pinnatifid leaves and white, pink, or purple flowers (order Compositæ).

common on pastures.

Milford: 1. A parl. bor. and sea-port of Pembrokeshire, S. Wales, on the Haven, 273 m. from London. has passenger and cattle traffic with lrish pc-+~ ing, sh

(1911)co., Massachusetts, U.S.A., 17 m. S.E. of Worcester, on the R. Charles. Has important granite quarries, and manufs, boots and shoes, thread, silk, straw goods, and machinery. Pop. (1910) 13,055.

Milford Haven, a natural harbour of Pembrokeshire, S. Wales, running inland for 17 m. and varying in breadth from 1 to 2 m. It is the finest harbour in Britain. It he depth of from 15 to 19 fathoms. It has a

Milford Sound, a fiord on the S.W. coast of South Island, New Zealand, extending for 10 m. and about 1 m. in breadth. It has numerous water-

falls.

Miliana, a tn. of Algeria, connected by rail with Algiers, 56 m. W.S.W. Has a healthy climate, and is 2900 ft. above sea-level. Pop. 8500.

Military Education and Military Schools, Under this heading may be treated the education, not only in subjects appertaining to the art of war, but also in general knowledge of military officers, N.C.O's., and

Men and N.C.O's,-In every regiment and garrison, schools are established for soldiers under the super-vision of the Director-General of Military Education. The minimum of knowledge for a recruit is reading, writing from dictation, and enough arithmetic to ensure

of his accounts. Ever atlend classes in thes six months, or until h a fourth-class certificat examination for a thi

cate, requiring a higher degree of knowledge, must be passed before Indian Medical Service, respectively. A private is promoted to corporal, a Here the rudiments of the required second-class before the rank of sergeant is attained, and a first-class before an N.C.O. can be recompleted from the field that the field second for a complete from the field second for a complete from the field for a complete from the field second for a complete from the field from the field for a complete from the field mended for a commission. examinations are conducted and t schools supervised by district spectors and sub-inspectors.

varies according to the branch of the service he is in. In the infantry the recruit receives, at least, two and a half months' training at the brigade He then joins his battalion, is three months training depôt. has and marching, sentry duties, course of instruction in in drill. etc. including twenty-seven musketry, days' target-shooting, follows, and the recruit is then a 'trained soldier.' An annual training in reconnoitring. bridging, bivouacking, field-fortification, etc., lasting for slightly over three weeks, is gone through by each company, whilst each regiment also annual manegures at the

exercise. Various tactical route-marching, etc., are practised during the winter. process of training is very similar for the cavalry, artillery, and engineers, save that the knowledge obtained during the first course is different in each branch. Thus the cavalryman learns stable-work, fencing, riding, saddlery, etc., the artilleryman is instructed in foot drill, gymnastics, gun and ammunition drill, riding, driving, etc.; and the engineer in musketry, field-fortification, og. etc. All trained soldiers drill, bridging, etc. have an annual training of fourteen days in field service and tactics, etc., with their squadron, battery, or followed by battalion, company, brigade, and divisional training. a soldier shows any special aptitude in such subjects as signalling, range finding, etc., he attends a course of lectures at one of the technical schools, and may qualify for the post of regimental instructor. Instruction is also given in various crafts, etc., to enable time-expired men to obtain employment when they leave the army. The children of soldiers generally attend the garrison school when their parents are married with leave.

Officers.-The Royal Military Academy, Woolwich, the Royal Military College, Sandhurst, and the Army Medical School, Netley, are the by which men go who

for commission in: Engineers or Royal e cavalry, infantry, forps, Indian army, ian regiments; or Medical Service and

by no science.

ducation

The proper is only just commencing. The

mental duties and drill; before promotion to the rank of lieutenant, a second lieutenant must pass examinations, both written and practical, in military law, drill, etc. The sine qua non in an officer is ability to com-The sine mand, and if the three senior officers of a second lieutenant's unit are not satisfied as to his ability in this respect, he may, after three years' service, be removed from the army. Before a lieutenant can be promoted to a captain or a captain to a major, a further and more difficult military examination must be passed, whilst practically all officers attend whichever of the detailed courses in musketry, gunnery, signalling, etc., happens to suit his talent and inetc., clination. An officer must enter the staff college before he is thirty-seven if he wishes to do so. As most of the best men in the army enter it, such a procedure is a great help to promotion. A major must pass an examination and must satisfactorily direct the operations of a mixed force in the field before he can be promoted to the rank of lieutenant-No further examination is colonel. held on promotion to higher ranks than lieutenant-colonel. The establishments where officers and men already in the service may be said to form a separate class. They comprise: The Staff College at Camberley, the School of Gunnery at Shoeburyness (the Artillery College), the School of Military Engineering at Chatham, the School of Musketry at Hythe (the Schools of Signalling and Range-Finding, the Army Veterinary School, the School for Auxiliary Cavalry), a school for the other auxiliary forces, and the Royal Mili-tary School of Music at Kneller Hall. For details as to the lengths of study, fees, qualifications, etc., of the above, see articles under their separate headings. See also under Sandhurst, Woolwich, and Netley for the Royal Military College, Royal Military Academy, and Army Medical School, respectively.

Military Engineering, School Chatham, is the centre of instruction in the army for the various engineering subjects. On appointment from the Royal Military Academy, officers remain at this school for a period of two years. The courses of instruction, of which some must be undertaken by all officers and men of the Engineers, deal with the construction and estiof practical fortification, mating surveying, submarine, and milimining, bridging, ballooning,

first things to be learnt are regi-|other branches of the service, mentary courses in 'field-working' and surveying are held periodically. A commandant and assistant commandant, brigade-major, and secretary form the staff, assisted by instructors, assistant instructors, and a quartermaster.

Frontier, see Croatia-Military

SLAVONIA. Military Law is laid down in the Manual of Military Law, issued under War Office authority, as being 'the law which governs the soldier in peace and in war, at home and abroad.' At all times and in all places the conduct of officers and soldiers as such is regulated by M. L. As regards Great Britain, this deis finition somewhat too wide although accurate as regards most In the latter continental countries. there is also, as a rule, an intermediate state recognised, an état de siège, which may be declared for a certain because of domestic inperiod, surrection, etc., by legislative enactment. In war time in all countries the military authority is supreme. In British dominions the case is somewhat different, as the soldier is also a citizen. The main authority for M. L in the Army Act and rules of procedr

the and Volunteer Acts, various royal

warrants, regulations, etc.
Military Orders, religious associations which arose from a mixture of the religious enthusiasm and the chivalrous love of arms which almost equally formed the characteristics of medieval society. The first origin of such associations may be traced to the necessities of the Christian resi-dents of the Holy Land, in which the monks were compelled, by the necessity of self-defence, to assume the character of soldiers as well as of monks. These religious associations have at various times been abolished or fallen into disuse; but most of them still subsist in the form of orders of knighthood.

Military Police, the name given to that branch of the police force which partakes more of the nature and undertakes more of the operations of the military forces than the ordinary constabulary. The members of this branch are mounted, and patrol fairly large areas of country; when necessary, they assist or are assisted by the ordinary police force. The Indian Police Force, the officers of which are chosen by competitive in Program has some examination in England, has some of the characteristics of M. P. It is enemistry, photography, etc. Ordin-ary military duties and shooting are greater authority than the English also taught. For officers and many respectively. also taught. For officers and men in police, whilst the duties are fraught 249

with more danger, and its organisa-| War, it was carefully organised for tion is consequently on military lines.

Military Prisons may be divided into two classes, those for soldiers discharged from the service with with ignominy, and those for ordinary offences. Of the former class only two now remain, at Dover and Curragh, and in many cases a civil prison is now used for such offenders. For breaches of discipline for which the punishment is imprisonment for more than fourteen days, central and district prisons are appointed, whilst for minor offences the barrack cells or detention barracks are used

Militia (Lat. miles, a soldier) had the acquired meaning of the domestic force for the defence of a nation, as distinguished from the regular army. The M. was a constitutional force raised under the sanction of parliament, in which the people—in theory at least—waged their own bodies for the defence of their own soil, and in which they deputed the sole leadership and command to the sovereign and the crown nominees. Organised by counties and cities, it was essen-tially a local force: the property qualification for its officers connected it with the land, while the command of the sovereign effectually combined in it the interests of the three estates. Under the Anglo-Saxons, no special being adopted, organisation efficiency was rarely attained. This the nation found to its cost when the Danes overran it during Alfred's reign. That great king, to prevent a similar occurrence, established the M. or fyrd, making land the basis of numbers, the family system that discipline. Each section of the community had not only to furnish its quota in time of war, but also to provide arms, keep them in repair, and to undergo so many days' training every year. When the crown began to contend with the Norman barons stituted in England and Scotland in

the defence of the kingdom. Several M. Acts were subsequently passed with a view to consolidating the M. laws of England, Scotland, and Ireland. In practice, M. were raised by voluntary recruitment; but should volunteering fail, a levy by ballot could be made upon all the inhabitants of the locality between the ages of eighteen and thirty-five. The power of making this ballot always exists, and would have by law to be enforced, but for the Militia Ballot Suspension Act, which, when the measure is unnecessary, is passed from year to year. Many classes are exempt from the ballot, as peers, soldiers, volunteers, yeomanry, resident members of universities, clergymen, parish schoolmasters, articled clerks, apprentices, seafaring men, crown employes, free watermen of the Thames; in England, any poor man with more than one child born in wedlock; in Scotland, any man with more than two lawful children, and not possessed of property to the value of £50; in Ireland, any poor man not worth £10, or who does not pay £5 per annum for rent, and has more than three lawful children under the age of fourteen. The M. were bound to assemble annually for training purposes; and the government can embody the whole or part of the force at any national crisis. The regiments were embodied almost without exception during the Russian War

of 1854-56, and to a considerable extent at the time of the Indian Mutiny (1857-59). They could not be sent out of the kingdom, except they volunteered, and then only by special permission of parliament. A M. volunteer received bounty, payable partly on joining and partly in instalments after each training period. The celebrated Local Militia was in-

> 1816. In 1908 on the reorgan-Lord Haldane, partly by the h forms drafts and partly by ,' which now

and substituted ' Trained (commonly | forms our second line. called Train) Bands, to the number of 160,000 men, a force partaking of the nature of M. and volunteers. During the civil war of Charles I., the trained bands or M. sided readily with the parliament. After the Restoration, the loyal parliament of Charles II. immediately recognised the M., and this organisation formed

See ARMY. The production of M. as a Milk. secretion of the female's mammary glands is the chief characteristic of the great animal division mammalia. For young and growing animals it is a complete food, and necessarily, therefore, a highly complex mechanical mixture of a number of substances which vary not only with different species but also with individuals and breeds of domestic animals. the basis of the M. until 1908. The species but also with individuals M. was much neglected until 1757, and breeds of domestic animals when, a large portion of the regular Though the M. of goats is probably army being absent in the Seven Years' superior to any other for the artificial

importance. United Kingdom is calculated to exceed 15 gal. per head per annum, while in the U.S.A. an average of about 26 gal. a year is estimated to be the consumption of each person. Although the dairy industry is probably almost as ancient as civilisation itself, the greatest progress in the scientific study and treatment of M. has taken place since about 1890. With the greater knowledge and with the rapid increase of its consumption, many of the chief enacted States have important legislation as to its production and disposal. More recently it is in its connection with tuberculosis that the M. supply has received much attention, and the only check upon most stringent, far-reaching legis-lative action is the undoubted fact that the supply would rapidly diminish if the dairying industry were much hampered by too sudden and much hampered by too sudden and too drastic new regulations. On May 1, 1913, the existence of tuberculosis in dairy cattle became compulsorily notifiable, slaughtered animals being compensated partly by the Treasury and partly from the local rates. This promises to have a far reaching effect upon the purity of the British M. supply. The housing of cattle, which has no less bearing upon the question, is also undergoing steady improvement. undergoing improvement. steady At the same time, breeders of dairy cattle are working steadily for the production of deeper milking cows. Vast numbers of cows yield only about 500 gal. a year, and while on the other hand properly accredited yields of over 1500 gal. are not unknown, an increase of the average cow's yield to about 800 gal. would vastly increase the profitableness of the dairy industry, and so permit the production of M. under ideal sanitary conditions. Except when sanitary conditions. Except when the udder is diseased, M. at the time drawing is probably always ile. This freedom from the always bacteria moulds and other organisms of decay should be continued as much as possible by the scrupulous exclusion of dust and dirt, the use of sterilised vessels, and by keeping the M. at a low temperature until it reaches the consumer. In spite of about seventy-five years' work upon it by inventors, the milking machine is still very far from being in general

Milk feeding of children, it is the M. of will be in great demand when dairy cows which is of chief economic farmers are convinced of their prac-Its consumption in the tical value. The average milker's methods fall far short of a hygienic The M. should be drawnideal. after the udder has been cleaned with a damp cloth—with clean dry hands into a pail covered with muslin. Immediately afterwards, if it is to be sent away, the M. is passed through a gauze strainer into a cooler or refrigerator, in which it is reduced to a temperature about two degrees above that of the water employed in the cooler, about 5 gal. of water being necessary to cool 1 gal. of M. The M. runs direct from the cooler into the railway churn, usually constructed to hold 17 gal., and, while allowing of perfect ventilation, to be proof against dust, rain, or pilfering. If the M. is retailed without delay in a delivery churn containing an ice chamber, it will reach the consumer in a condition scarcely inferior to what it was when drawn,

The delivery in glass bottles scaled with air-tight cardboard discs which can only be used once is on the increase. Under the Food and Drugs Act, 1899, the Board of Agriculture were empowered to state a standard for M. Contrary to the general idea, there is no such thing as a legal standard, but if on analysis M. is found to be inferior to the Board's presumptive standard, it rests with the seller to prove that the M. was as yielded by the cow, and was not adulterated. This standard assumes the minimum percentage of solids, not fat, to be 8.5 per cent., and of fat 3 per cent. Though pure M. has been known to fall far below these minima, authorities agree that the standard is a fair one, and that poorer M. is not the food it is expected to be.

A Local Government order of 1912 prohibits the use of chemical preservatives in M., and the only methods of preservation apart from the method of keeping clean and cool outlined above are rectangled. cool outlined above, are pastcurising, sterilising, and condensing. are numerous devices for performing the operation invented by and named after Pasteur. In one, M. is dis-tributed mechanically over a paraboloidal surface, and maintained at a temperature of about 176°, after which it is cooled to a temperature of about 40°. It will then keep for a considerable time in nir-tight vessels, and when cool has no flavour. use. In April 1913, the Royal Agri-cultural Society conducted a large and important competition, which brought to light great improve-ments in these machines, which, with the growing scarcity of labour, to permit the spores left behind to

germinate. After the third heating, Mts., near the N. boundary of if proper care has been taken to Montana, and draining part of prevent the admission of further Canada. Total length about 475 m. spores or organisms, the M. will keep for an indefinite period. Sterilised Milkwort (Polygala), a genus of Milkwort (Polygala), a genus of M. is slightly brown in colour and has a sweet flavour. The M. fat globules collect together and form a cream which cannot be redistributed in the M. For young and invalid persons this is very indigestible. temperature under reduced pressure, and if the process of manufacture is rostte, and P. austriaca, with large carefully carried through and only pink flowers. Some of the hardy whole or unseparated M. used Condensing is performed by evaporat-

product is a satisfactory substitu The remarkable fact may here mentioned that in some dairy far ing districts the demand from towns for M. is so great that the labourers' families are compelled to use con-densed milk. A recent invention continues the process of evaporation until the solids are left as a fine powder, which has a pleasant, sweet taste, and can be kept for a long time without deterioration. It is mixed with water for use. Much marine station at Granton, and three attention has recently been attracted marine station at Granton, and three by sourced M., which for many cenyears later was appointed a univerturies has been used in E. Europe sity extension lecturer. He has and Asia, and to which Professor held successively the posts of libralitation of the Royal Geographical able longevity of the remark-in to the Royal Geographical able longevity of significant of the Royal Geographical able significant of the Royal Geographic mixed with water for use. Much

after cooling a cult Bulgarious is introd is kept covered and temperature of 100° The soured M. th

about as thick as ordinary butter- South Pole. In 1907 he edited the milk; its flavour is pleasant and fourth edition of the International distinctive, and it is undoubtedly a Geography. very valuable food and gastric cor-

rective.

Milk Fever, the name given to the hours by the use of cooling draughts and by encouraging

free flow of milk.

ThMilk Fever, in animals. is the chief subject of this derange-ment, and is rarely attacked before 1821 he published the famous Ele-the third calving. Its actual cause ments of Political Economy; in 1829 is uncertain, but is no doubt related the subject of the artificial treatment of the artificial treatm to the artificial treatment of animal. Schmidts, a German, introduced a remarkable treatme

hardy annuals and perennials and hardy and tender evergreen shrubs. The common M., P. vulgaris, occurs on chalky heaths and bears terminal racemes of white, pink, or blue flowers. Other British species include the large flowered Chalk M. Glaux maritima.

· IALAXY. SPINNING AND

MANUFACTURE, FLOUR-MILLING, and WOOL. The owner of a mili

Mill, in law. is entitled to the use of a stream undiminished in volume; if owners above interfere, he can sue them.

Mill, Hugh Robert (b. 1861), a Scottish chemist and geographer. born at Thurso. In 1884 he became physicist and chemist to the Scottish

esident of the Royal Society, and has following works: The The Realm of Nature, and The Siege of the In 1907 he edited the

Mill, James (1773-1836), a philo-pher, came to London in 1802. sopher, came to London in 1802, and in that year became editor of the Literary Journal, and later of the St. James's Chronicle. These papers febrile state sometimes occurring Literary Journal, and later of the two or three days after childbirth, St. James's Chronicle. These papers frequently brought about by a chill. ceasing to exist in 1808, he earned It can generally be subdued in a few his living as a contributor to the ----r reviews, and 'ia (1818). He

supporter of nd of Ricardo

n 1835 a Fraga bitter attack hilosopher.

ntroduced a remarkable treatme which, with proper care, reduces loss to a minimum. When the disloss the disloss to a minimum. When the disloss the di

and was made chaplain to Charles II. Four years later he became principal of St. Edmunds Hall, a position he retained till his death, and in 1704 was made a prebendary of Canterbury. His famous Greek Testament, published in 1707, was the fruit of thirty years' lahour.

Mill, John Stuart (1806-1873), a philosopher, was the eldest son of James Mill, the historian of India. James Mill, the historian of India. Educated by his father, his studies embraced a range unusually wide. In 1823 he became a clerk in the India House, and was promoted until in 1856 he became the head of his department, and two years later, when the government of India was transferred from the East India Company to the crown, he declined a seat on the new council, and retired on a pension of £1500 a year. He entered parliament as member for entered parliament as member for Westminster in 1865, but retired three years later. He was a founder Westminster in 1805, but rearred three years later. He was a founder of the Utilitarian Society (1823), and of the Speculative Society (1826). He published a work on Logic in 1843, and the well-known treatise on Political Economy in 1844. Among

books On 'arliamentary Representative The Subjec-His Auto-

biography appeared in 1873. In all his writings he showed great common and unbending sincerity. There is a Biography by Professor Bain (1882).

Bain (1882).

Milla, a genus of bulbous plants (order Liliacew). M. uniflora bears white, lilac, or pale blue flowers in March. It needs a dry, sheltered, gravelly position.

Millais, Sir John Everett (1829-96), an English painter, began to study art at Sass' school in London in 1838. In 1840 he passed on to the Academy schools, where he was awarded all the prizes. Ambitious of lifting native art from its dull level of conventional mediocrity, he joined the Pre-Raphaelite Brotherhood with Holman Hunt, his friend. hood with Holman Hunt, his friend. In his picture of Keat's 'Isabella' (1849), in his 'Huguenot,' and above all in his universally admired 'Ophelia' (1852), for whom Mrs. Rossetti was the model, he has nobly

in Westmorland. In 1681 he be Ruskin, meanwhile, was championing came rector of Bletchington, Oxford-M, with the rest of the Pre-Raphaelite an, with the rest of the Fro-Kaphaente band. Mrs. Ruskin, whom M. afterwards married, sat for his 'Order of the Release' (1853). The afterglow in 'Autumn Leaves' (1856) and the monlight in 'The Eve of St. Agues' (1863) are two of his most splendid (1863) are two of his most splendid (1863). (1863) are two of his most spiendid atmospheric effects. His finest pictures, such as 'The North-West Passage' (1874), 'The Boyhood of Raleigh' (1870), 'The Rescue' (1855), the 'Yeoman of the Guard' (1877), and 'The Princes in the Tower' (1878), show a rare dramatic force and ability to express senting the property of the property o In his latter days he was most ment.

famous as a painter of portraits.
Millar, John (1735-1801), a British
professor of law, born at Shotts.
Lanarkshire. He became an advo-Lanarkshire. He became an advo-cate in 1760, the following year being appointed professor of law at Glasgow. He wrote The Origin of the Distinction of Ranks, and Historical View of the English Government from the Settlement of the Saxons in Politicist Charles. Britain to the Accession of the House

of Stuart.

Millard, Evelyn, an English actress, born in London. Her stage career began in 1891 at Margate, where she appeared in a stock company. From 1891 to 1893 she was playing at the Adelphi, and the following year was with Sir George Alexander at the St. James, playing Cecily Cardow in The Importance of being in Earnest; Blanche Chilworth in Liberty Hall, and Princess Flavia in the Prisoner of Zenda. In 1898 she played Portia in Sir Beerbohm Tree's production of Julius Cæsar. In the same year she played in The Adventure of Lady Waller's Ursula. Under Louis management she has played in M.
Beaucaire, The Perfect Lover, Robin
Hood, etc. In Mr. Granville Barker's
Mentith Night recent production of Twelfth Night

she played Olivia.

Millau, a tn. in dept. of Aveyron.
France, on the Tarn. Manufactures
gloves and wool. It was formerly a Huguenot stronghold. Notre Dame and St. Francois, the latter with a edifices. belfry, Gothic are fine Pop. 18,500.

Millbank Prison. This prison was erected on a site on which the Tate Gallery now stands, and was a direct outcome of the philanthropic teach-ing of Howard. The old vindictive or retributive theories of punishment expressed the principles of the brotherhood. His homely and naturalistic representation of the child Christ in 'The Carpenter's Shop' (1850) produced a very unfavourable impression upon the favourable impression upon the the erection of places that should fulcritics, and even called forth an unmerited rebuke from Dickens.

of prison reformers, accordingly purchased land at Millbank, and at great cost erected the Millbank penitentiary. The system failed dismally; and there was a partial reversion to older methods. On the M. P. being condemned as insanitary over twenty years ago, the buildings constituting it were demolished.

Mill-board, a tough, thick, and rigid board made from pulp. As in the case of paper the material varies with the quality; waste paper and wood pulp give a poor quality, the better kinds

and run into a tank: covered with a fine w up the pulp in a thir

then received on a felt band. Thence it is wound on another cylinder, being compressed in the process. When the necessary thickness is obtained, it is again rolled to drain out water and compress the material, cut flattened, and dried. The finer qualities used by artists are bleached and glazed.

Millbrook, an eccles. par. of Cornwall, England, 31 m. W.S.W. of Plymouth. Pop. (1911) 3432.

Millbury, a tn. in Massachusetts, U.S.A., 7 m. from Worcester. (1910) 4740.

Milledgeville, a city of Baldwin Georgi-, seed o state neniten-

tiary. Pop. (1910) 4385. Millennium, a period of 1000 years during which it was believed the kingdom of Christ would be established on earth. The idea originated in Judaism, but it was also very popular among the early Christians, who looked forward to the Parousia, or second coming of Christ. Indeed, in the 1st century of the church, chiliasm (Gk. xixio, thousand) was a widespread belief to which the books of Daniel and the Apocalypse gave authority; whilst such books as the Testament of the Twelve Patriarchs the Christian Sibylline Books, etc., and the writers, Papias of Hierapolis, Irenæus, and Justin Martyr gave vivid descriptions of the glory and magnificence of the M. According to them it would be a time when all flaws in human existence would have vanished and perfect happiness pre-vail. But this period of bliss was to be preceded by great calamities and the triumph of the Messiah over Antichrist. The Roman empire was to be destroyed, Satan put in bonds, and a British mineralogist, dorn at the kingdom of Christ established, Velindre, near Llandovery, Carmar-

century, impressed by the arguments when the righteous would arise from the dead and live, together with the surviving saints, with the Messiah in the New Jerusalem, a city which would literally descend from heaven. But lapse of time tended to stifle this belief, and when the Alexandrinian philosophers, and amongst Origen, started the idea that there would be no final conflict between Paganism and Christianity, but a gradual spread of truth throughout the world, dreams of chiliasm began to fade. Millenarianism, however, had some revival at the period of the Reformation, being adopted by the Anabaptists, who regarded the Pope ; and in Cromwell's time

' onarchy Men (q.v.) were It flourished, moreover, hirty Years' War, and in See Corrodi's

more modern times. Kritische Geschichte des Chiliasmus (Zurich, 4 vols.), 1794; Calixtus, De Chiliasmo cum antiquo tum pridem renato Helmot, 1692.
Miller, Hugh (1802-56), a Scottish geologist, was born at Cromarty, where

in 1860 his memory was honoured by a monument to his name. By trade M. was a stone-mason, and it was only by being a stern 'taskmaster of his own energies' that he acquired that literary style and scientific learn-Has ing which won him renown. cotton and woollen mills, and manufs. publishing *Poems*, 1829; and *Legends*, thread, tickings, edge-tools, etc. Pop. 1835; he became in 1839 editor of the

> at of a bodied in The Old Red Sandstone, 1841. Carlyle was delighted with his autobiography, My Schools and School-masters, 1852. In politics M. was 'Whig in principle, Tory in feeling,' whilst his religious ideals were bound up with the Free Church, which arose from the disruption of 1843. His from the disruption of suicide is directly traceable to excessive mental strain.

Cincinnatus Miller, Joaquin (né Heine Miller) (1842-1913), an American poet, born in Indiana, and spent his later boyhood in Oregon. For four years (1866-70) he was judge in Grant county, and later he visited Europe many times (1870-76), and also Klondyke (1897) and the Orient He made his name with his passionate Songs of the Sierras. 1871, and besides writing other poems and a melodrama, The Danites, published a History of Montona, 1886, and The Building of the City Beautiful, 1887, some ideas of which he attempted to put into practice in a social community on his estate.

Miller, William, see ADVENTISTS. Miller, William Hallows (1801-80).

thenshire. and educated at John's College, Cambridge, becoming a fellow in 1829. His chief work WAS. Crystallography, published in 1838.

Miller's Thumb, sec BULLHEAD. Millesimo, a tn. in prov. of Genoa, Italy. 14 m. W.N.W. of Savona. Noted for Napoleon's victory over the Austrians in 1796. Pop. 1500.

Millet, the seed of some species of Paneum, which are extensively cultivated in India and Africa, and also in Southern Europe, being especially well suited to growth in a dry, sandy soil. The seeds are round, and vary in size and in colour from yellow to white, grey, brown, red, and black. M. is much used in food for poultry, pigeons, and cage birds.

Millet, Aimé (1819-91), a French sculptor, born at Paris; leaped into fame in 1857 with his statue of 'Ariadne,' which was bought for the Luxembourg, Paris. This was followed by Mercury, now standing in the court of the Louvre, and the famous 'Vercingétorix,' a colossal statue in beaten copper, at Alise-Ste.-Reine in Côte-d'Or (1865). Other works are the 'Apollo' surmounting the Grand Opera, 'Tombeau de colossal Other Baudin' and a monument of 'Dorian' at Pèrc-Lachaise.

Millet, Francis David (b. 1846), an American artist, born at Matta-poisett, Massachusetts, U.S.A. He acted as correspondent of the London Daily News, Graphic, and New York Herald during the Russo-Turkish War (1877-78), and in 1898 went to War (1877-78), and in 1898 went to Manila as war correspondent for the Times and Harper's Weekly. In 1885 he was elected a member of the National Academy, New York. His best known pictures are 'Between Two Fires,' in the Tate Gallery, London; 'A Cosy Corner,' and 'At the Inn.' Among his publications are: The Danube, Capillary Crime and Olher Stories, and Expedition to the Philippines.

Philippines. Millet, Jean François (1814-75), a French painter, was the son of a peasant of Gruchy, near Gréville (La Manche). Like Burns, he turned to his art after toiling in the fields; in 1836 he became a pupil of Mouchel in ears later en-

oche in Paris.

he secured a notable success with 'The Winnowers,' exhibited at the Salon in 1848. 'Sowers and Binders,' 1850, 'The Reapers,' 1854; 'The Gleaners,' 1857 (now in the Louvre), 'The Angelus,' and 'Death and the Woodcutter,' 1859, are some of his finest works. M. was a master in depicting the sombre melancholy of work and 'The the sombre melancholy of work and

St. 1 often emphasised by a twilight atmosphere most sensitively expressed.

Milletia, a genus of climbing trees and shrubs (order Leguminosæ) with pink and purple flowers.

Milliard, a word very rarely used nowadays, signifying a thousand millions.

Milligan, William (1821-92), a Scottish theologian, born in Edinburgh, and educated at the high school there, and at St. Andrews University, graduating in 1839. In 1844 he became minister of Cameron in Fifeshire, and in 1868 was appointed professor of biblical criticism at Aberdeen University. Among his works may be mentioned, Resurrection, Ascension of Our Lord, Revelation of St. John,

and Discussions, etc.
Millin, Aubin Louis (1759-1818), a French archæologist, botanist, and numismatist, born at Paris. He became professor of history and physics départeme---

Milliner to design

trimmings (ribbons, lace, feathers artificial flowers, etc.), and is also applied to the art of making ast trimming hats and bonnets. Origin ally the word meant 'Milan goods, such as textile fabrics, gloves, ribbons 'Milan bonnets,' needles, and cutlery Many articles of M. are sold by haber dashers and drapers. Milliners are those who make and trim hats and headgear of all descriptions for women and children (as opposed to ' hatters, who make headgear for men), and are nearly always women. The most usual head covering is the hat (for outdoor wear), consisting of a crown and a brim all the way round, both having innumerable varieties of shape and size, according to the particular fashion of the day. Straw is one of the commonest materials in use (tuscan, leghorn, tagal, chip, satin, straw, etc.), and may be had in all colours. Other materials for hats, toques, or bonnets, are silk, velvet, lace, felt, wool, and fur. Bonnets are worn chiefly by elderly ladies. They are much more compact than lats, with a narrow brim fitting close to the head, and strings fastening under the chin. They are perhaps less worn now than formerly, being often re-placed by toques. These usually have a swathed trimming and no project. ing brim. Shapes manufactured from straw, felt, or other ornamental materials which only need trimming and lining are called 'trimmed' hats, rustic peasant life—a melancholy while foundation (buckram) shapes

hats. Some shapes are manufactured wholesale, but exclusive ones, such as ares old by high-class milliners, are all hand-made. The chief materials used for foundations are Spatra (espatra), made of woven esparto-grass backed by firm white muslin; buckram (black or white), a coarse, stiff muslin, and French net (black or white), for light headwear such as lace hats or dress caps. Slight covered wire (black or white) is used to strengthen each section of the foundation. Bandeaux, designed to raise all or part of the headdress from the head, are less worn than they were formerly. linings are mostly of sarcenet or soft silk. The 'tip' is a section fitting into the crown; the head-lining proper is fastened inside round the extremity of the crown where it joins the brim, and has a draw-string run through the opposite edge by which to pull it up. Bonnets for infants and children are made of very soft materials, and usually with only flannelette or bookmuslin for stiffening. M. classes are frequently held in connection with the Polytechnic and other schools. See Madame Rosee, Handbook of

English archæologist, born in London of a Dutch family, educated at West-minster school. On account of his health he went to Italy, where he be-

lime or soot are methods of keeping Ms. in check.

Millom, a tn. of Cumberland, England, 9 m. from Barrow. smelters, red hematite mines blast furnaces. Pop. (1911) 8612 Has

Miliport, a watering-place on Great Cumbrae Is., Bute, Scotland. Has a good sandy beach and fine harbour. Pop. (1911) 1614.

covered by hand with velvet or drawn co., Kentucky, U.S.A., 80 m. S. of silk or chiffon are known as 'made' Lexington. Here the confederates were defeated by the Union forces in 1862.

Mill Stones. These consist mostly of sandstone and various kinds of grit, but they have the disadvantage of becoming smooth and thus necessitate dressing from time to time. The best stone to use is one which is hard and porous; perhaps the best stones ful-filling these conditions are the French burr stones. Of late years steel rollers have largely displaced those of stone.

Milltown, a tn. in New Brunswick, Canada, on the St. Croix R., 62 m. W. of St. John. Manufs. carriages and pumps, and has a lumber export trade. Pop. about 2000.

trade. Pop. about 2000.

Millvale, a bor. of Allegheny co..
Pennsylvania, U.S.A., on the Allegheny R., opposite Pittsburg. Haslumber mills and manufs. boxes. saws, etc. Pop. (1910) 7861.

Millville, a city of Cumberland co. New Jersey, U.S.A., 35 m. S. of Philadelphia (Penn.). It manufs. cottons, glass ware, iron goods, etc. Pop. (1910) 12,451.

Milman, Henry Hart (1791-1868), a divine and author, was a son of the physician, Sir Francis M., Bart. He

physician, Sir Francis M., Bart. was educated at Eton and Oxford. He took holy orders, and was in 1818 presented to the living of St. Mary's, Reading. He was professor of poetry at Oxford from 1821 for ten years, and in 1827 was appointed Bampton lecturer. Rector of St. Margaret's, Westminster, and canon of West-minster from 1835, in 1849 he became writings were: Fazio (1815), a play produced in 1818 with great success; an epic poem, Samor, the Lord of the Bright City (1818), and a dramatic poem, The Fall of Jerusalem (1820). In 1838 he edited Gibbon, and in the following year published a biography of the historian. The works upon which his fame rests are his History and the mouth decay also damage and destroy cultivated plants. Common species are Julus guilatus, J. terrestris (sometimes called wire-worm'), and J. pulchellus. Trapping by means of buried roots and dressing the ground lime or soot.

Milne, Sir David (1763-1845), a British admiral, born in Edinburgh and died at sea. He entered the navy in 1779, and distinguished himself on many occasions, notably at the capture of the French frigates, La Pique in 1795, and La Vengeance, 1809. In melters, red hematite mines and 1816 he was appointed commanderast furnaces. Pop. (1911) 8612.
Millport, a watering-place on Great imbrae Is., Bute, Scotland. Has a lod sandy beach and fine harbour. pp. (1911) 1614.
Millsprings, a port hamlet of Wayne Milne, John, F.R.S. (1850-1913), an English seismologist and mining engineer; educated in Rochdale, Liverpool, and London. He was employed as geologist in Dr. Beke's expedition to N.W. Arabia (1874). He then served the Ja

twenty years, survey of Jar travelled wid Borneo, the U.S.A., and els

Association he established a seismic survey of the world. His works include Earthquakes, 1883; Seismology, 1888; and The Miner's Handbook, 1804.

1894.

Milne-Edwards, Henri (1800-85), a French naturalist, son of an Englishman. He succeeded Cuvier as member of the Académie des Sciences (1838), was professor of entomology at the Jardin des Plantes (Muséum d'Histoire Naturelle, 1841), and professor of zoology and physiology (c. 1861). He edited the Annales des sciences naturelles (1834-84), and contributed largely to it and to the Dictionnaire Classique d'Histoire Naturelle. His works include: Eléments de Zoologie, 1834, 1851; Histoire Naturelle des Coralliaires, 1857-60. His monumental Leçons sur la Physiologie d'Analomie Comparée de l'Homme et des Animaux (1857-81) was compiled with his son Alphonse (1835-1900). He also published manuals of materia

medica and surgical anatomy. Milner, Alfred, Viscount (b. 1854), a British colonial administrator, was educated at Tübingen University King's College, London, and Balliol College, Oxford, where in 1877 he graduated as a first-class honours man in classics. For four years (1881-85) he devoted himself to journalism, writing chiefly for the *Pall Mall Gazette* under John Morley. He owed his appointment as Under-Secretary for Finance in Egypt, where he re-mained for four years (1889-92), to Mr. Goschen, Chancellor of the Exchequer, whom he had already served as private secretary (1887-89). His statesmanship was first put to a serious test when, after fulfilling admirably the functions of chairman to the Board of Inland Revenue (1892-97), he was created governor of Cape Colony and high commissioner for S. There is no doubt that his determination to secure for the British subjects of the Transvaal that political freedom which the Dutch alone enjoyed helped to precipitate the war, which broke out between the English and the Boers in 1899, and this, combined with the unlooked-for disasters which overtook British troops, accounts for the organised opposition with which he met on his Pop. (1911) 8584.

return home in 1901. But the resentment that his administration had raised, so far from securing his dismissal from S. Africa, was promptly met by his appointment as governor of the Transvaal and Orange River colonies. This post he retained till 1905. In 1903 he sanctioned the importation of Chinese labour to work the mines—a sanction which subsequently involved him in a storm of adverse criticism. He was strongly opposed to the granting of self-government to the new colonies. On his return to England he took a leading part in the rejection of the 1909 Budget. In his England in Egypt (1892) he gives a clear account of the results of the British occupation. Nation and the Empire is the title of

a more recent work (1913).

Milner, Isaac (1751-1820), an English divine and mathematician, born near Leeds. He studied at Queens' College, Cambridge, where he subsequently became master (1783) and was elected vice-chancellor on two separate occasions. Amongst his various works are miscellaneous essays and sermona and a continuation of his brother Joseph's Church

History.

Milner, John (1752-1826), an English Roman Catholic bishop and antiquarian. He entered the English college at Douai (1766), and was ordained priest in 1777, becoming bishop in partibus of Castabala, Cappadocia, in 1803. M. established the Benedictine nuns at Winchester, and wrote a History . . . of Winchester, 1798-1801 (new edition with Memoir. 1839). Other works were The End of Religious Controversy . . and various theological and archeological publications.

Milner, Joseph (1744-97), an evangelical divine and historian, educated at Leeds and Cambridge. He became head master of Hull Grammar School, vicar of North Ferriby (1780), and of Holy Trinity Church, Hull (1797). His History of the Church of Christ (1791-1809) was completed (vol. iv. 14th to 16th centuries) by his brother Isaac (1750-1820), dean of Carlisle, and re-edited with a Life and Complete Works by him (1810).

Milnes, Richard Monckton, see HOUGHTON, RICHARD MONCKTON

Milnes.
Milngavie (locally pronounced Milngay), a police burgh of Scotland, in

orks,

Milnrow, a tn. of Lancashre, England, 14 m. S.E. of Rochdale, with a trade in woollen goods, and collieries. Pop. (1911) 8584.

slate. Pop. (1910) 6088.

Milo, or Melos, an island in the Escan Sea, belonging to Greece, one of the Cyclades group. It is about 14 m. long and 8 m. broad, and covers an area of 64 sq. m. It is of volcanic formation, and has several mountain peaks over 1000 ft. high, Mt. Prophet Elias rising to 2548 ft. The island was first colonised by the Phænicians, and was taken by the Athenians in 416 n.c. In 1537 it was seized by the Turks. The famous statue, the Venus de Milo, now in the Louvre, Paris, was discovered here by a peasant in 1820. M. is rich in sulphur, gypsum, manganese ore, salt, lead, and zinc. The cap. is Plaka, also called Kastro; many historic remains have cently been found in the vicinity. Pop. 5400.

Milo, or Milon, a Greek athlete who flourished in the latter part of the 6th century B.c., born at Crotona, Magna Greeia, Italy. He was famous for his prodigious strength, and be-came a pupil of Pythagoras. At the Olympic and Pythian games he was twelve times victor at wrestling. He

defeated the Sybarites in 511 B.C. Milo, Titus Annius, a famous Roman tribune, came into office in 57 B.C. He was a partisan of Pompey, and aided Cicero's recall from exile, thus incurring the hostility of Clodius, whom he killed in a fray (53 B.C.). The next year he was tried for homicide, and was condemned and exiled to Marseilles. See Cicero, Oratio pro Milone (Reid's ed.), 1906.

Milrei, or Milrea, a Portuguese silver coin, valued at 1000 reis, and since 1835 the unit of the money system in Portugal. It is equal to \$1.075 American, or 53.28d. sterling. In Brazil it is worth about 1s. 3d.

Milt, see PISCICULTURE.

Miltiades (c. 540 - c. 488 B.C.), a famous Athenian general and victor of Marathon; son of Rimon, and nephew of M. the Ekist. After the Scythian expedition of Darius M. had to leave as a result, according to Grote, of incurring the hostility of Darius, but was at the Chereonesus continuously from the outbreak of the Ionic revolt until about three years Was before the battle of Marathon. one of the four out of the ten Athenian generals who strongly advised the Polemarch, Kallimachus, to give immediate battle to the Persians, instead of resisting behind the walls of Eretria; and crowned his career by winning the battle of Marathon. Later he was entrusted with the expedition had not hitherto been assigned to against Paros, but apparently used him. In 1646 his wife returned to him, the occasion merely to vent a private and within six years bore him four

Milo, a tn. in Maine, U.S.A., on spite against a Parian citizen, Lythe R. Piscataquis, 30 m. N.N.W. sagoras. Was impeached on his reof Bangor. Has quarries of roofing-turn by Xantippus, father of Pericles, but died soon afterwards, leaving the fine to be paid by his son Kimon.

Milton: 1. A tn. of Norfolk co., Massachusetts, U.S.A., on the Ne-ponset R., 7 m. S. of Boston. The United States Meteorological Bureau has an observatory and station on the Blue Hills near by. Fine granite is quarried, and there are manufactures of scaling-wax, paper, cement, and tallow. Pop. (1910) 7925. 2. A bor. of Northumberland co., Pennsylvania, U.S.A., on the Susquehanna R. (W. branch), 52 m. N. of Harris-burg. Cars, machinery, nuts, nails, and washers are manufactured, and there are steel and iron works and furnaces. Pop. (1910) 7460. Milton, John (1608-74), a poet, was

the son of a distinguished musician of the same name. He was educated at St. Paul's School and Christ's Col-

lege, Cambridg tion he began

age of ten, and he wrote verses on current events, and, inter alia, the sonnet on Shakespeare. It was at one time intended that he should study law, but he inclined to letters, and was allowed to follow his bent. From 1632 he lived

Arcades and Comus. The exquisite Lycidas was written in 1637, on the death of Edward King. In the following year he went abroad, and spent about a year in Italy, Switzerland, and at Paris. On his return he settled in London, took two nephews as his pupils, and entered into an acrimonious theological controversy with Bishop Hall, his principal writings being The Reason of Church Government urged against Prelacy (1642) and an Apology (1642). In the following year he married a girl of seventeen. Mary, eldest daughter of Richard Powell, who, finding life dull with the eminent but dour Puritan, went within a month of the nuptials on a visit to her father, and refused to return. Thereupon M. wrote a pamphlet on The Doctrine and Discipline of Divorce (1643), and followed this with The Judgment of Martin Bucer concerning Divorce. He was attacked by the Stationers' Company for publishing pamphlets without licence, and in reply wrote Areopagitica (1644), a spirited vindication of the liberty of the press, which brought him into great prominence, and gave him a position as a man of letters that

children, dying in giving birth to the last. He sided with the army against the king, and after the execution of Charles I. published the Tenure of the work, and his widow subsc-Kings and Magistrates, in which he quently received another £8. Thirtcen last. He sided with the army against the king, and after the execution of Charles I. published the Tenure of Kings and Magistrates, in which he espoused the popular side. In 1649 he became Latin secretary to the Council of State, and in his official capacity answered Gauden's Ethon capacity answered Gauden's Eikon Basilike with Eikonoklastes. He became blind, and had to be assisted by secretaries, the most important of whom was Andrew Marnell, but he retained his post until the Restoration, during which period he wrote several pamphlets, and just before the



JOHN MILTON

return of Charles II. published The Ready and Easy Way to establish a Free Commonwealth. M. was now in considerable danger, for the Royalists were very naturally incensed against him. The House of Commons ordered that his Defensio should be burnt by the common hangman, and that he should be arrested. He had gone into should be arrested. He nau gone muo hiding, but was taken prisoner. The toriums, Act of Indemnity, however, put an end to his troubles. M. had married a cational second time in 1668, but this wife dying two years later, he married Elizabeth Minshull in 1663. He now 18 5, 1895. 1896. that is still extant settled down to con

nundred copies were sold in eighteen months. The poem was acclaimed by the few, but it did not at once bring the author the great fame that is his to-day. When M. showed Thomas Ellwood the manuscript of Paradise Lost, Thou hast said much here of Paradise Lost,' Ellwood remarked, but what hast thou to say of Paradise Found.' M. may have taken the hint, or it may have already been his plan, but in 1671 he published Paradise Regained. In the same year appeared his last important work, Samson Agonistes. He died on Nov. 8, 1674, and was buried in St. Giles, Cripplegate. M. stands high above all English poets, and is second only to Shakespeare himself. His splendid vocabulary, his swinging rhyme, and majestic diction are unrivalled. He demands reverence rather than love, for he is, above all things, austere. Love touched him not, and of humour he had not a spark. Yet, in spite of these defects, Paradise Lost is a triumph of the poetic art, that all must admire and none can contemite the structure of the second of the sec plate without awe. There are several biographies, but the classic work is Masson's Life in connection •

siastical, and Time (6 vols.), 1859-80. Masson also edited M.'s Works (2nd ed.),

1890. Miltonia, a genus of epiphytal orchids, with large, flat, brilliantly coloured flowers resembling pansies in shape.

Milton Regis, a tn. of N. Kent, England, 9 m. E. of Chatham. Pop. (1911) 7478.

Milwaukee, chief city and port of Milwaukee co., Wisconsin, U.S.A., on the W. shore of Lake Michigan. It has a fine harbour, and carries on a large export trade in barley, wheat, and oats. The chief industries are tanning and brewing, and there are immense flour-mills and manufactories of clothing machinery, agricultural implements, iron-castings. etc. The city has numerous fine public parks, a free hospital and sanatoriums, a city-hall, library, and museum, and several important edu-Pop. (1910) cational institutions. 373,857. Consult Conard, History of Milwaukee from its First Settlement to

namsa (Sanskrit, investiga-two divisions of the orthodox philosophy, comprising a series investiganamsa work that had long been in his mind. of commentaries on the Vedas, the Paradise Lost was begun in 1658, and, sacred books of India. The first 259

division is the Purva-mimamsa Bolssonade. See Christian marx, ('Prior Inquiry'), called also the Karma-mimamsa ('Investigation concerning Works'). The second is the Ultara-mimamsa ('Latter Inquiry') leaves which in some species are sentor Brahma-mimamsa ('Latter Inquiry') he touch, particularly M. sensitiva, both natives principles of the M.

series of suiras, or aphorisms, which are themselves so obscure as to need elaborate commentaries. The sage genus of fragrant annuals and peren-Jaimini is supposed to have been the founder of this kind of knowledge. The subject-matter is the ritual given in the Vedas, on which it supplies a commentary. See Garbe's Philosophy

of Ancient India, 1897.

Mime, see MIMUS. Mimicry, an evolutionary process by selection, which occurs both in animals and plants, giving them in the simplest way the equivalent of some advantage possessed by the object imitated. Sometimes the mimic assumes the appearance of a harmless creature so as to come within easy reach of its unsuspecting prey; a good instance of this is the caracara, or curassow hawk, of Central America, which very closely resembles the galwhich very closely resembles one gai-linaceous curassow, and the hawk's victim, confusing them, allows it to approach within striking distance. More commonly M. is protective, and instances of this occur in many branches of the animal kingdom, such as the stick caterpillars, which assume a marvellously twig-like appearance on the shrub or trees where they feed: or stingless insects, which bear a sufficiently close resemblance to wasps and bees to be avoided by birds and other insectivorous enemies. A wonderful example of M. is the angler fish, which daugles small fleshy lumps at the end of long filaments over its large mouth. The small fish that nibble at the 'bait' fall an easy prev. M. occurs most frequently in plants where the object is to attract insect fertilisers.

Mimir, a water-giant of Norse mythology, to whom belonged the fountain of wisdom beneath the world-ash Yggdrasil. This fountain was regarded as the source of memory and wisdom, and known as M.'s Well. Odin, in exchange for a drink therefrom, gave M. one of his eyes. On the death of the giant, Odin caused his head to be embalmed and consulted

as an oracle.

Minnermus of Colophon, a Greek poet and contemporary of Solon, flourished in the latter half of the 7th century B.C. He is said to have invented the pentameter verse, to have brought the elegy back to its original design of expressing personal grief. Fragments of his poems have been collected by Estienne, Brunck and

is the Purva-mimamsa | Boissonade. See Christian Marx.

nials of the order Scrophulariace.
M. moschalus is the common musk. M. cardinalis, cardinal flower, is a popular garden plant bearing blooms which vary from scarlet to pale yellow. M. cupreus is orange and crimson. M. glutinosus is a valuable shrub which bears orange or scarlet flowers almost all the year round.

Mina (Heb. māneh, weight, from mānāh, to divide): 1. A Greek weight, containing 100 drachmæ, or close upon 16 oz. 2. A sum of money equal to the sixtieth part of a talent. The coin was never minted, but only employed for purposes of account. The value of the Attic M. was £4 1s. 3d., that of the Æginetan M. £5 14s. 7d.

Minab, or Minau, a tn. of Persia, in the prov. of Kerman, 52 m. S.E. of Bender Abbas, in an oasis noted for dates. Pop. 10,000.

Mina Bird, see MYNA.
Minaret, the English form of the
Arabic manaret from manar, lighthouse. It is the name of the storeyed which embellishes Mohamturret, and from medan mosques the balcony of which the muezzins chant the 'azan,' to summon believers to

Minas, a tn. of Uruguay, in a dept. of the same name, 63 m. N.E. by E.

of Montevideo. Pop. 7000.

Minas de Riotinto, a tn. of S.W. Spain in the prov. of Huelva. It has productive copper mines. 12,000.

Minas Geraes (general mines), a state of Brazil, N. of Rio de Janeiro, with an area of 222,160 sq. m. The surface is for the most part mountainous, with well-watered plateaux. The climate is extreme, and for the most part unhealthy. Cereals are extensively cultivated, and there is great modern agricultural develop-As regards mineral wealth. ment. M. G. ranks among the first of the Brazilian states. Gold, silver, copper, platinum, diamonds, rubies, and other precious stones are found, and extensive iron works have been erected. Wool-weaving and the making of cigarettes are important industries, organous and tobacco, coffee, sugar cotton, millet, rice, maize, etc., are feedy grown. Present cap., Minas. freely grown. Pop. 4,277,000. Pop. Minbu, a tn. of Upper Burma, India,

and the cap. of the dist. of Minbu, chemicals and glassware. on the r. b. of the Irawadi. Rice, a victory was gained he grain, millet, beans, peas, and tobacco are grown. Pop. of dist.

233,377; of tn. 6000.

Mince Pies, a sweet very popular in England at Christmas, which is made of a compound consisting of raisins, apples, lemons, currants, figs, almonds, cinnamon, ginger, nut-meg, and suet, and often many other ingredients, chopped fine, mixed to-gether, and baked in pastry.

Minch, or Minsh (storny sea), an arm of the Atlantic Ocean, which separates the N.W. mainland of Scotland from the Island of Lewis, belonging to the Hebrides. It is from 20 to 46 m. in width, and about 60 m. from N.N.E. to S.S.W., and has a rapid current. A portion of it, called the Little Minch, is a passage separating the Island of Skye in the Inner Hebrides, from the middle part of the Outer Hebrides—S. Harris, N. Uist, and Benbecula. This is from 14 m. to 20 m. in width.

Minchinhampton, a in. of Gloucestershire, England, 4 m. S.E. of Stroud. There are breweries, and woollen cloth is the chief manuf. Pop. (1911)

3702.

Mincio (ancient Mincius), a riv. of Italy, which rises in Lake Garda. It flows S. and S.E. through Mantua, and enters the R. Po, about 10 m. S.E. of Mantua. Length 120 m.

Mind, see Psychology.

Mindanao, the largest and most southerly of the Philippine Is, covering an area of 36,292 sq. m. Three or four ridges cross the island, with intermediate depressions and many rivers and lakes. It has the volcances of Apo(10,312 ft.), Macaturing and Sanguil in the N., and in the S.W. stretches a long, narrow peninsula continuing in the Basilian Is. and Sulu group. The principal bays are Butnan, on the N., Davos on the S.E., Savangani, Sibuley, and Illana on the S. The chief rivers are the ng in

m its terior of the island is wild and covered, for the most part, with un-explored forests. M. was the first of the Philippines where Magellan landed in 1521. The raising of cattle and horses is the chief industry. Pop, 499,634 (about 400,000 uncivilised).

499,55% (about 58ce Philippine Islands.

Minden, a tn. of Prussia in the prov. of Westphalia, on the l. b. of gists, Wern the Weser, about 38 m. W.S.W. of Others of Hanover by rail. There is a fine Catholic cathedral, dating from the exactness.

In 1759 a victory was gained here by the Duke of Brunswick over the French. Pop. 26,455.

Mindererus Spirit, known in the Pharmacopæia as Liquor ammonii acetatis, the dose being 2 to 6 fluid drachms, is a solution of ammonium acetate, prepared by neutralising ammonium acetate with acetic acid. It is used as a diaphoretic in febrile diseases, as an eyewash, and also on hot flannels in the case of mumps.

Mindoro, one of the Philippine Islands, lying S. of Luzon, 110 m. long, 56 m. broad, and covering an area of about 4050 sq. m. The highest point of the island is Mt. Halcon (8868 ft.). Calapan, in the N.E., is the capital. Rice, cocoa, tobacco, hemp, cotton, etc., are raised, and various kinds of timber are exported. Coal and sulphur are being worked. about 30,000.

Mindszent, a com. of Hungary in the prov. of Csongrad, on the R. Theiss, 17 m. N.E. of Szegedin. Pop. 12,000. Minehead, a market town and

watering-place of Somerset, England. 2½ m. N.W. of Dunster. Pop. (1911) 3459.

Mineo (ancient Menæ), a tn. of Sicily in the prov. of Catania, 27 m. S.W. by W. therefrom. Pop. 10,000.

Mineral Kingdom, one of the three great departments into which nature has been divided, viz. animal, vegetable, and mineral. Members of the animal and vegetable kingdoms are characterised by the development of special organs or structures adapted for 'life' or 'growth.' The M. K. however, is concerned only with minerals which may be described as a partial borneraccor. homogeneous substances, natural formed under conditions in which neither animal nor vegetable life has taken part. Minerals increase by a process of accretion, not by assimilation, as in the organic kingdoms, and are also bounded, in their most developed form, by plane surface, i.e.

veloped form, are crystallised.

Mineralogy. Treatises on M. by Вау, Mineralogy. Treatises on M. by Theophrastus, Dioscorides, and Pliny, although now of little scientific value, show that the study is of great anti-quity. Agricola in the 16th century, in his work, typifies the advance made in descriptive M.; Wallerius in 1747 Issued the first systematic descriptive work, and Romé de Lisle in his Crystallographie (1772) first in his Crystallographie (1772) his-applied to the science the principles of crystallography. Later minerallo-gists, Werner, Hauy, Von Kobell, and others of the present day, have brought the science to its present exactness. The science is concerned with the chemical and physical manufs, are linen and woollen goods, characters of minerals (which em-

brace crystallography), and on the class of silicates belong the majority ls, which are of occurrence, whether original or secondary, and their modes of origin,

or organic. mical comils, simple

qualitative and more or less quantitative analyses can be performed by means of the blowpipe in the dry way. Complete analysis in the wet way is necessary to determine a formula for the mineral. The physical characteristics examined are colour, lustre, specific gravity, hardness, malleability, fusibility, electrical and magnetic properties, etc. From a knowledge of these characteristics it is possible to distinguish certain minerals, e.g. gold by its colour and specific gravity. It is by means of their crystalline symmetry and crystalline constants that the species of minerals are determined. The study of the of the crystals constitutes morphological or geometrical crystallography, the three principles which tharacterise the crystalline form being indicated by the terms 'con-stancy of angles,' 'symmetry,' and

Dependent, cleavage and fracture. too, upon the crystalline form are the optical properties of the mineral, and by these optical tests, viz. opacity, cleavage, refractive indices, pleo-chroism, birefringence, etc., the chroism, birefringence, etc., the minerals present in the most close-grained rocks can be determined upon examination of thin sections for Minerals may be the microscopic. as metallic and metallic, but generally are classified into groups, the members of which show a certain unity chemically, physically, and crystallographically, e.g. the gold group, the members of which are all isotropic, and the arsenic group, of which the members occur in rhombohedrons. Minerals of analogous constitution often have the same crystalline form. This isomorphism is well shown by the carbonate, calcite, magnesite, dolomite, siderite, calamine, etc., which are similar in form, occurring in rhombohedral crystals, and show the

the carbonate of calcium occurs in the hexagonal system as calcite and in the rhombic system as aragonite. The silicates, which form the largest class of all minerals, exhibit fully these phenomena of isomorphism, dimor-phism, and polymorphism. To the

groups, such spars, micas, zeolites, etc., according to their similarity of chemical composition and crystalline properties. their modes of occurrence. minerals are essential or accessory according as its absence would either alter the rock and make it fundamentally different or would not affect its petrographical species. quartz is an essential constituent of granite, its removal altering the

petrographic species to syenite. petrographic species to syenice. All essential minerals are original, but the converse is not true. Thus tophz and sphene may be original constituents of granite, but are yet accessory minerals in that their absence does not alter the rock fundamentally. Accessory minerals frequently occur in cavities where they had room to crystallise out from the general mass, as, for example, the crystals which line the 'drusy' Secondary cavities in granite. minerals, the result of subsequent changes in rocks, are generally due to the chemical action of percolating waters, either from above (as in the formation of kaolin) or from below (as in the formation of greisen and tourmaline). Groups of minerals are found associated, indicating a significant paragenesis. It is observable that basic minerals tend to separate out together from rock magmas by

action of percolating waters frequently gives rise to pseudomorphs, i.c. the external form of a mineral is retained -- ... minerals become

the process of magmatic differentia-tion. In saline deposits, calcite, gypsum, rock salt, carnallite, etc., are frequently found associated. The decomposition of minerals by the

change of silica for calcite, thus giving pseudomorphs of silica after calcite. As well as occurring in the crystalline form, minerals assume a concretionary form, some being particularly prone to assume this form. Siderite is generally nodular, while calcite is often found in concretionary form. Silica often assumes this shape, as in the botryoidal form of chalcedony. Several hundred species of minerals have been described, and the number is con-stantly increasing by the addition of new ones. See CRYSTALLOGRAPHY, Isomorphism, and Petrology. For

F. Rutley's A. Mier's Bauerman's \$4; Dana's System of Mineralogy, 1892. For waters the sulphuretted hydrogen practical determinative M., see the work of Brush and Penfield, 1896 oxidised into sulphure acid which (new ed., 1912).

aspects of the seic earbon dioxide are used busch-18dings' Rock-tolky (1892); that been averred that the medicinal control of the medic

Harker's Petrology for Students, 1908, and his Natural History of Igneous Rocks, 1909.

Mineral Oil, see PETROLEUM. Mineral Rights, Taxation of, see

LAND TAXES

Mineral Waters, so called owing to the presence in them of mineral constituents, derived from the rocks over which they flow. The waters are sometimes cold, or may be warm or even boiling. As a general rule the thermal waters are more mineral than cold waters, although there is no relation between the temperature and the chemical composition. M. W. may be classified according to the prevailing mineral substance contained in them. Earthy M. W. generally contain carbonate or sulphate of calcium, and occur abundantly in limestone districts. Such are the hot springs of Bath. The waters of Baden and Contrexéville are also of this type, the waters generally being imbibed. Feruginous or chalybeate waters contain a large proportion of ferrous sulphate, and are known by their 'inky 'taste. Brine springs contain sodium chloride or salt. brines worked as sources of salt are derived from borings into saliferous beds, such are the springs of Cheshire, Salzkammergut (Austria), and Bex (Switzerland). These springs also con-tain chlorides of potassium, mag-nesium, and calcium, sulphates of calcium and other metals, silica, phosphates, nitrates, and gases, such carbon dioxide, sulphuretted rogen, etc. The hot springs of hydrogen, etc. The hot si volcanic districts usually contain dissolved matter, mineral chiefly phates, carbonates, The oil springs of with sulphates, chlorides, etc. America are typical mineral springs. Medicinal springs are M. W. which are believed to have a curative effect These medicinal waters on diseases. be: (1) Alkaline, containing lime or soda and carbonic acid, as at Vichy and Saratoga; (2) bitter waters with sulphates of magnesia and soda, as at Sedlitz and Kissingen; (3) salt, as at Wiesbaden, Cheltenham, Droitwich, and Homburg; (4) earthy, as at Bath and Lucca; (5) sulphurous, containing sulphur in the form of sulphides and culphyretted by drawing the containing sulphure of sulphides and culphyretted by drawing sulphides. sulphides and sulphuretted hydrogen, as at Aix-la-Chapelle, Harrogate, and Aix-les-Bains. The water of these aprings may be warm and acquire their medicinal reputation from their In sulphurous audible at about 60 ft., and explosive thermal qualities.

raters, e.g. Apollinaris. It has been averred that the medicinal qualities of some of these 'cure waters' are due to the presence of radium in small quantities. Gouty and rheumatic ailments are most likely to benefit by M. W. Dyspepsia and kindred stomachic troubles benefit by the diet and general health regime, as well as by the waters. Skin diseases are best cured with sulphurous waters; anemia improves with iron waters and purgatives, while hydrotherapeutic treatment benefits the obese and diabetics.

Mineral wells, a tn. and health resort of Texas, U.S.A., in the co. of Palopinto, 78 m. W. of Dallas. Natural gas and coal are found. Pop. (1910) 3950.

Minerbio, a tn. of Italy in the prov. of, and 11 m. N.E. of, Bologna. Pop. 7400.

Minersville, a coal-mining bor. of Pennsylvania, U.S.A., in Schuylkill co., on the Schuylkill R., 4 m. W. of Pottsville. Pop. (1910) 7240.

Minerva, a Roman goddess, identified with the Greek Athena. Her worship was celebrated with that of Jupiter and Juno in the temple on the Jupiter and Juno in the temple on the Capitol. Her festival, called quinquatrus, fell on March 19 and lasted five days. She was the goddess of wisdom and good counsel. A carved image of her, called the 'Palladium,' and supposed to have been carried from Troy by Æneas, was preserved in the temple of Vesta. See Warde Fowler's Roman Festivals, 1908.

Minervino Murge (ancient Lucus Minerve), a walled tn. of Apulia, Southern Italy, in the prov. of Bari, and 41 m. W. of the town of that name. Pop. (com.) 18,000.

name. Pop. (com.) 18,000.

Mines: Military.—A very important branch of sappers' work in military engineering. Before the introduction of gunpowder when masonry defied all means of attack, tunnelling and undermining was resorted to. Against these the besieged 'countermined by means of an envelope gallery in advance of and parallel to the wall. The first instance of the use of ex-plosive mines occurred in 1503 when Pedro Navarro reduced Castello del' Uovo near Naples. Since then the art of mining and countermining has developed enormously; shafts and galleries form an intricate network, chiefly in defence. The object of the defenders is to destroy mines and miners at a distance from the object of attack: the approach of sappers is

charges can be fired to destroy these. The attack may, however, by exploding a carefully arranged and large charge, destroy the defensive galieries over a considerable area, at the same time breaking up the surface into 'craters.' These may be immediately occupied by troops and the advance of advantage lies continued. Balance of advantage lies with defenders who can prepare beforehand, and at leisure, galleries lined with masonry. Another form of military mining consists in sowing the ground over which the enemy must advance with charges of dynamite, cordite, etc., buried a few feet below the surface. These are exploded by means of electric cable. Naval (see SUBMARINE MINES).

Minghetti, Marco (1818-86), an Italian states man and economist, born at Bologna. He entered the service of Pope Pius IX. after his election (1840), and was appointed member of the Consulta della Finanze. When Plus yielded to the demands of Aus-tria, he resigned office and fought in the Sardinian army in Lombardy. In 1859 Cayour appointed him Secretary-General to the Foreign Office, and subsequently Minister of the Interior After Cayour's death (1861) (1861). succeeded to the premiership he (1863), and concluded with Napoleon III. the September Convention (1864). He was later Minister of Agriculture (1868), and Premier (1873-76). His writings include: Della Economia writings include: Della Economia Publica, 1859; La Chiesa e lo Stato, 1878, and Mici Ricordi, 1885.

Mingrelia (the ancient Colchis), has formed part of the Russian government of Kutais since 1867, but it was once a principality of Caucasus, The Mingrelians belong to Georgia. the same stock as the Georgians and

number 241,000.

Minho: 1. A river, 170 m. long, rising in Galicia, Spain, and flowing S. and S.W. to the Atlantic, forming latterly a northern boundary of Portugal. 2. A prov. of Portugal, see

ENTRE MINHO E DOURO.

Miniature-painting, usually applied to portraits painted on a very small M. is generally executed on scale. ivory and is, as to composition, drawing, and finishing, subject to the same process as any other kind of painting, but the colouring, at all events of the face, is dotted or stippled on. The term 'miniature' (from Lat. mino, to colour with red ochre) was originally applied, not to a small portrait, but to the highly specialised art of illustrating MSS. Each of the 250 miniatures in illustration of the celebrated Cottonian Genesis was about 4 in. square. Later the 'miniature' became merely a large initial letter indicates silence for the duration of containing on or around it a pictorial a M.

representation on a small scale of some incident or person spoken of in the From this fact it is possible that the term miniature when it became exclusively applied to small portrait-painting on enamel, ivory, or any other material had become erroneously associated with Latin mino, to diminish. Ivory is commonly selected for M., because the peculiar hue of the better kinds presents great facilities for the imitation of human skin, and indeed ivory may be regarded as the chief elementary tint that goes to the formation of the colouring of flesh. Before being used the ivory has to be prepared by rubbing on it pumice powder and water with a glass 'muller,' which gives it a 'ground' surface. The conversion of

photographs into 'colour photographs' is, however, hardly the art of a Hans Holbein, for it hardly consists in doing more than add nature's colouring to what must perforce be regarded as nature's form; and most experts agree that to attempt to 'improve' the photography by deepening shadows, or vice versa, usually detracts from the accuracy of the portraiture. English artists have been conspicuous in the past as miniature painters, among the most notable being: Isaac Oliver, whose miniatures are to be seen in practically every important portrait collection: he painted James I. and most of the contemporary court and nobility Peter Oliver, his son, whose celebrated miniature, 'The Entombment of Christ,' was begun by his father and finished by the son; Richard Cosway (1740-1821), whose miniatures snuff-box lids were famous; and Sir William Ross (1794-1860), the king of English miniaturists. See Redof English miniaturists. grave's Dict. of Artists of the English

School.
Minie, Claude Etienne (1814-79), an inventor of the Minie rifle, born in Paris. He entered the army as private and rose to the rank of colonel (1858), having seen active service in Africa. The rifle bearing his name was in-

vented in 1849.

Minieh, a prov. of Upper Egypt, with an area of 772 sq. m., drained by the Nile. Minich is the cap., situated on the Nile midway between Siut and Beni-Suef. It has manufs. of earthenware, and a government cotton factory. Pop. of prov. 625,000, of tn. 27,000.

Minim, a character or note in music. equal in duration to one-fourth of a breve, or two crotchets. Its name is derived from the fact that in ancient music this note was of the shortest duration (nota minima). A M. rest

Minims, or Minimi, friars of the religious order founded by St. Francis of Paula. The rule is founded on that of St. Francis of Assisi. St. Francis of Paula founded his first convent in 1444, and the first rule was made in 1493. There are also second and third orders.

Mining includes all processes whereby minerals are obtained from their native surroundings beneath the earth, and all processes which are necessary before they can be taken over by the metallurgist. It is quite an ancient art, and is mentioned in Job xxviii., and a gold mine is depicted on an Egyptian papyrus drawn in 1400 B.C. In 1556 the first systematic book on mining appeared, written by Georgius Agricola. It was not until after the introduction of gun-powder in 1620, however, that the art could make great strides. That side of mining which is concerned with the raising of minerals from bias or strata, is treated under COAL-MINING. We have, therefore, only to deal here with the mining of that class of mineral which gathers in veins or lodes or reefs. In these cases the metal has filled a former fissure in the earth's surface. With these second class of deposits, the vein has to be carefully searched, and inclined shafts are found to be better than vertical It is usual, however, with an extensive mine to sink a vertical shaft, and to run out cross-cuts, or passages at various levels. None of the ventilating difficulties are met with in this second class that are met with in the case of coal, while the methods of boring and sinking (where these are resorted to), timbering and hauling are similar although not so elaborate. See Coal-MINING, and the articles on the various metals and minerals. Sce also Callon, Lectures on Mining (trans. by Le Neve Foster and Galloway); B. H. Brough, Mine Surand Transactions of veying, Mining Institutes

Ministers, see Cabinet.

Mink, a name given to some species of the weasel family. The American M., Pulorius vison, is larger than a stoat, and the fur varies from yellow to dark brown in colour. It is aquatic in habit, feeding on fish and small mammals. When attacked it produces a very offensive secretion. The European M., or Marsh Otter (P. lutrola), closely resembles the other species, its white upper lip being its chief distinction. If taken young, Ms. are easily tamed, and have been used as ferrets.

Minmi, a tn. of New South Wales, Australia, in Northumberland co., 7 m. W.N.W. of Newcastle. There are coal mines near. Pop. 6000. Minneapolis, the largest city of Minnesota, U.S.A., and co. seat of Hennepin co., is situated on both banks of the Mississippl, at the Falls of St. Anthony, and covering an area of 53 sq. m. It is the great centre of the wheat and flour trade, its immense water-power being used in flour-milling. There are extensive manufactories of machinery, carriages, furniture, boots, shoes, etc. It is the seat of Minnesota University, and owing to its picturesque neighbourhood is a favourite holiday resort. The Falls of Minnehaha, immortalised by Longfellow in his Hiawatha, are near the city. Pop. (1910) 301,408.

are near the city. Pop. (1910) 301,408.

Minnesingers (Ger. Minnesangers, love-singers), German lyric poets who flourished about 1150 to 1300 Their lays dealt not only with love, but also with other topics, such as country life, military adventure, and politics. The earliest M. were chiefly Austrian and Bavarian, and were often called the Swabian poets, because in their songs the Swabian dialect was prevalent. Their art spread rapidly throughout Germany, and in 1207 the famous 'Sangerkrieg,' or 'Battle of the Bards' (celebrated in Tannhauser), was held at the Warthurg in Thuringia, where the Landgrave, Hermann I., held open court for all minstrel folk. Among the most famous M. were Friedrich von Hausen, Heinrich von Ofterdingen, Otto von Botenlaube, Heinrich von Morungen (the noble Morringer of the ballad), and above all Walter von der Vogelweide, whose songs were not only skilfully wrought but also imbued with strong national and political feeling. Ms. were generally of noble, sometimes princely rank, but some were mere wandering minstrels. Rudiger von Manesse, burgomaster of Zürich (d. 1304), collected nearly 1500 Minnelieder. The best modern selection is Von Hagen's

4 vols. (Leipzig, 1838).

Minnesota: 1. A N. central state of the U.S.A., bounded on the N. by Canada, on the S. by Iowa, on the E. by Lake Superior and Wisconsin, and on the W. by N. and S. Dakota. It covers a total area of 84,682 sq. m. Its extreme length is about 400 m., and breadth 354 m. The surface in the S.W. portion is an undulating plain, well watered with lakes and streams. In the N. central part is a highland, called the Height of Land, with an elevation of 1300 to 2000 ft. The land slopes in all directions from this central elevation, and in the N.E. corner the Misquah hills reach an altitude of 2230 ft. The great rivers of the state are the Mississippi, draining about two-thirds thereof: the Red R., forming the western, and the St. Croix, the eastern boundary, and

there are numerous minor streams, belonging to Spain. Cereals and fruits besides a large number of takes. Againative is the principal industry; wheat, barley, oats, hay rye, potatoes, etc., being the chief crops. As regards mineral wealth, the iron ore deposits are the richest in the country, which is and the limestones and sandstones deposits are the reness in an and the limestones and sandstones afford material for the manufacture of bricks, tiles, etc. The principal

2,075,708. History .- M. was explored by the French as early as 1660: in 1686 Nicolas Perrot took possesin 1686 Nicolas Perrot took possession of it in the name of the king of France. It was ceded to England in 1763, and became part of the U.S.A. after the Revolution. It became a state of the Union (1858). 2. A river of U.S.A., rising in a series of lakes in M., and an affluent of the Mississippi. Its total length is 450 m., and it flows SE for about 320 m. the it flows S.E. for about 320 m., the rest of its course being N.E.

Minnow (Leuciscus phoxinus), small fish common in most parts of . It is

of its brown and green colouring. It varies from 3 to 7 in. in length, and breeds freely, and is much hunted by larger

fish.

Minor, in Scots law, a person under lawful age or majority. In English law the term generally used is infant. As opposed to pupil, it means a male over fourteen, or a female over twelve and under twenty-one. Ms. in this restricted sense are capable of consent. but are treated as persons of such inrequire legal protection. Pupillarity, on the other hand, is a state of total incapacity. A M. who has no curator (guardian) may validly enter into a contract to marry, or any other con-tract, lease his heritable lands, and give his movables to whom he will. But the acts of a M. who has a curator are, generally speaking, in-yalid without the latter's consent. Nevertheless, he may, without such consent, do any act which does not affect the property under his curator's control.

Minor, in music, a term referring to intervals and scales which are a semitone less than the corresponding major. The M. scale is derived from the ancient Greek system, its peculi-arity being that it possesses no lead-ing note, or semitone below the touic. There are in existence four forms of the M. mode. A common chord with a M. third is a M. chord or triad.

Minorca (Sp. Menorca), the second largest (area 293 sq. m.) of the Balearic Islands in the Mediterranean an area of 35,220 sq. m., two-thirds of

are produced. There are good pastures, and horse and cattle rearing are engaged in. In winter the island is exposed to the boisterous winds from the N. The capital is Port Mahon, which has a splendid harbour. Pop.

Minority, see Representation.

Minos, an ancient king of Crete om the legends were so ascribing to him the t virtues together with

Minsk

monstrous cruelty and tyranny, that poets and historians solved the difficulty by supposing two kings of the same name. One, a favourite of the gods, was after death appointed supreme judge in the realm of the shades; the other, connected with the story of the Minotaur (q.v.), was killed in Sicily, whither he had gone in pursuit of Dædalus. Ancient legends, once looked upon as entirely mythical, have been proved by Dr. Schliemann and others (see CRETE) to have their foundation in fact. There were several Minoan dynasties, and possibly M., like Pharaoh, was a dynastic

Minot, a city of N. Dakota, U.S.A., in Ward co., 100 m. N.W. of Bismarck. It is a shipping port for coal and grain. Pop. (1910) 6188.

Minot, Lawrence (c. 1300-52), an English poet, the author of eleventers and eleventing the trivershee.

songs celebrating the triumphs of Edward III. They are written in the Northumbrian dialect, with a sprinkling of Midland forms, and were first published by Joseph Pitson in 1795 under the title Poems on Interesting Events in the Reign of King Edward III. See edition by J. Hall (Clarendon Press, 2nd edit, 1897), and T. Weitstein 1897, and T. Wright's Political Poems and Songs, 1859.

Minotaur, a fabulous monster, half bull and half man, said to have been confined by Minos II. in the laby-rinth at Cnossus, and fed upon the flesh of young men and maidens sent as an enforced tribute from Athens. Among the ruins of Cnossus have been found wall-paintings of bull fights and figures of a monster as described above.

Minotaur, a British armoured eruiser, which was laid down in 1905 and launched at Devonport in 1906. Its displacement is 14,600 tons, and its speed is 23 knots.

Min River, a riv. of China in the prov. of Fukien. It flows in a S.E. direction after leaving Yen-Ping-Fu, and enters the sea about 30 miles below Fuchou-Fu. It is navigable by small native boats for

which are composed of marshes, soil in a temperature of about 60°, and lakes, and marshy forests of stunted trees. The N. part of the prov. is higher and well timbered; through this district runs the railroad from with the whorls crowded into terminal spikes are round-leaved M. the cap. (pop. 97,997), has an important station. The marshy districts M. which is much more agreeably (called Polyessia) are extremely unhealthy, and have hardly any the very common hairy M. Corn with the whorled M. have (called Polyessia) are extremely unhealthy, and have hardly any cultivation, the inhabitants depending mainly on the timber trade, fishing, and hunting. Manufs, are few and unimportant. The chief rivers are the Beresina and the Pripet, tribs.

of the Dnieper. Pop. 2,813,400.
Minster (Lat. monasterium, Ger. Minster), the church attached to a monastery or forming part of it.
The name is now applied in England to certain large churches or cathedrals, such as those of Westminster and York.

Minster in Sheppey, a vil. of Kent, England, in the Isle of Sheppey, near the north shore. It is a rising seaside resort. There are oyster

beds. Pop. (1911) 1546.

Minster in Thanet, a vil. of Kent,
England, on the R. Stour, 4 m. W. of Ramsgate. It possesses an ancient parish church, which was attached to a nunnery founded in 670, and also an abbey. Pop. (1911) 2500.

Minstrels, itinerant musicians and poets akin to the French 'jongleurs,' flourished during the 10th to the 14th century. It is suggested in Grove's Dictionary of Music that the term was derived from the Lat. minister, a servant, since minstrels were employed as such by the troubadours and minnesingers, many of whom were of noble birth. Their duties consisted chiefly in playing ac-companiments for their masters. Gradually the term came to embrace all travelling musicians and bards; they were welcomed by all classes, and by the end of the 13th century the chief houses had permanent staffs of minstrels. Partly on this account and partly by reason of the spasmodio censure of the Church, the itinerant class sank into disrepute, and were classed as ordinary beggars and rogues. The art received its final death-blow from the institution of play-houses and the introduction of printing. See Chambers's Mediwal Stage, 1903.

Chambers's Areawist Stage, 1903. See also Music and Song.

Mint (Mentha), a large genus of aromatic plants (order Labiates). Spearmint (M. viridis) is grown for its shoots and leaves, which are utilised for culinary purposes. It impeachment of Warren Hastings can either be grown in the open in 1777 he succeeded to his father's garden in a moist rich soil and dried baronetcy, and in 1797 was created and stored for use, or it can be forced Baron M.; became governor-general by placing the roots in boxes of rich of India in 1806, and held that post

the very common hairy M. Corn M. and the marsh-whorled M. have the whorls of flowers separate and occurring in the axils of leafy bracts.
The catmints form the genus Nepda.
See PENNYROYAL and PEPPERMINT.
Mint. The Royal M. has exclusive

power to make or issue coined money gee CURRENCY, MONEY), except that the crown, under the Coinage Act, 1870, is empowered, with the advice of the Privy Council, to direct that (a) foreign coins shall be legal tender up to specified amounts, and (b) coins other than gold, silver, or bronze up to an amount not exceeding five shillings. This power of the crown as to (a) is only used in practice to legitimate native currency in British possessions. The nominal head of the M. is the Chancellor of the Exchequer, but the actual chief is the deputy-master or master and worker of the M., who is a permanent worker of the M., who is a permanent functionary appointed by the First Treasury Lord. Besides all money in circulation in England, all medals (q.v.) awarded by the crown are made at the M., and certain colonies are supplied with silver and bronze coins directly by this department. Gold bullion brought to the M. by any person must be assayed coined. any person must be assayed, coined, and delivered out to such person without charge therefor, or for waste in coinage; but the department may refuse to assay and coin the bullion if it is of such a quality that it cannot be brought to the standard of fine-ness required by the Coinage Acts without refining some portion of it. (See Halsbury's Laws of England.)
If finer than standard, allowance must be made to the person bringing such bullion in. Once a year the trial of the 'pyx' takes place at the M. when a jury of experts, under the presidency of the King's Remembrancer, examines the colnage made during the year.

18.. ca:

Oxford, he was called to the bar in 1767, and entered Parliament in 1776 as a Whig. He was an asso-clate of Burke, and took part in the impeachment of Warren Hastings. in 1813, he received an earldom, and of this age in the British Isles, but

minster Abbey.

Minucius, Felix Marcus, a very Christian apologist, remembered only for his Octavius, a dialogue between Cecilius, a pagan, and Octavius, a Christian, with Felix as arbiter. In the arguments for and against polytheism, Octavius is declared victor.

Minuet (from It. minuetto, through Fr. menuel, small, dainty), a graceful dance for two persons, supposed to have originated in Poitou, France. It was set to music in a time, and was performed with much dignity. slowly, and The name is also applied to the musical composition written to the time and rhythm of the dance, and is fre-quently introduced by Handel and Beethoven de-Bach into suites.

veloped it into the scherzo.

Minuscules, small letters developed from ancient uncial and cursive alphabets. Writing being used for business as well as literary purposes, two styles became distinct, the rapid cursive, and the formal book-hand. In the 9th century, the M., which had been gradually evolved during previous ages, practically superseded the uncial lettering for general use, though in scholastic and religious books much of the latter was retained. As time went on both Latin and Greek M. became still smaller and more flowing. present English handwriting Our mainly founded on the Italian 15th century style.

Minusinsk, a tn. of E. Siberia, in the gov. of Yeniselsk, near the Yenisei, 328 m. S. of Krasnoyarsk. Pov. 10,000.

Minute (Lat. minutus, small): 1. Of time, being the 60th part of an hour. 2. Of an arc, being the 60th part of a degree in the measurement of a circle.

Minute Men was a popular title for the soldiers of the militia during the American War of Independence, and refers to their hasty preparation for

war (at a minute's notice).

Minyæ were a Greek race of heroes, celebrated in the ancient epics. Their founder was Minyas, the King of Bœotia, and their headquarters was Orchomenos, though lolchos in Thessaly was a famous settlement. Their descendants, the Argonauts, who founded a colony in Lemnos, often called themselves M.

Miocene (Gk., less recent), a geo-logical name for Tertiary strata lying between the Oligocene and Pliocene,

with great ability. Returning home Lyell). There are no large deposits at his death was buried in West-small beds are found at Bovey Tracey and in the island of Mull. Elsewhere they are widely distributed over the They consist of sandstones, world. gravels, clays; of limestones, marls, clays, and sands; and contain marine shells, mastodons, rhinoceroses, lions, apes, deinotheria, three-toed horses, camels, beavers, tapirs, etc., conifers, beeches, oaks, maples, walnuts. poplars, magnolias, etc. The Eningen beds in Switzerland have contributed largely to our knowledge. The period of formation, the M. epoch, was that of the final uplifting of the present great mountain chains. Europe the formation is estuarine and facustrine mainly, and indicate a configuration of shallow seas and large inlets very different from the present. The climate rethat of India and Australia. The climate resembled Palms. magnolias, acacias, figs, evergreen caks were among the typical vegetation; insect life was larger and more varied. During this epoch Britain remained land subject to denudation, and the evidence of the removal of hundreds of feet of solid rock by this slow process gives some idea of the duration of the period. There are evidences of a gradual cooling of the climate towards present conditions, but the more tropical times are represented by beds of coal in Greenland and Spitzbergen. In Britain the chalk hills remain as evidences of the earth movements of the time. For excellent and brief account see Geikie's Class Book of Geology, 1899.

Miquelon, Great and Little, islands off the S. coast of Newfoundland, forming with the adjacent island of St. Pierre, a French colony, and covering a total area of 93 sq. m. G. and L. M. are connected by a narrow isth-

The inhabitants are almost mus. entirely occupied with the fisheries, the islands being barren and rocky, and unfit for agriculture. Capital, St.

Pierre. Pop. about 6000.

Mir, the name of a vil. community of Russia. There are three classes of local elected bodies in Russia which have administrative functions, the mir and the volost, the cuistros and the municipal dumas. The M. conthe municipal dumas. The M. consists exclusively of all the peasant householders of the village; women may be present, if widows, or representing an absent husband. These elect a starosta, or head man, and a collector of taxes; the latter, until the ukaz of 1906, which stopped the practice of communal taxes, was responsible for the delegation of individual and containing fossils of living species shares of the taxes for the commune. in intermediate ratio (25 per cent., A number of Ms. unite to form a volos!, or canton, with an assembly of books allowed him, and concealed the delegates elected from the different MS. in the lining of his clothes. Com-The institution of the M. is of very great antiquity, but the patri-nionial jurisdiction of the landowners was not withdrawn from it until the

emancipation of the serfs in 1861. Mira (o Ceti) (Lat., wonderful), the first variable star discovered; name also given to the class of long period variables. Brightest, 4th to 2nd magnitudes for a fortnight, decreases for three months; invisible for five; recovers during next three. Both periods and brightness very irregular. On average, visible during eighteen weeks, appearing twelve times in eleven years. Discovered by Holwarda (1638-Fabricius (1596). 39) recognised variability. Helvelius (1648) commenced systematic observation. Other observers, Sir Wm. Herschel and Argelander.

Miraband, Jean Baptiste (1675-1760), a French 'littérateur,' born at Paris. He first became a soldier, and later acted as tutor to the daughters of the Duchess of Orleans. In 1724 he published a translation of Tasso's Jerusalem Delivered, and two years later was elected a member of the French Academy. He also wrote Alphabet de la fée Gracieuse, translated the Orlando Furioso, and published several philosophical and other treatises.

Mirabeau, André Boniface Riqueti, Vicomte de (1754-92), a brother of the great statesman, joined the French army, where he distinguished himself

1781, in 1789 he became a deputy to the States-general, where as a reactionary he bitterly opposed his brother. His corpulence and drunken habits won him the name of Mirabeau Tonneau (the Barrel). Emigrating to Germany in 1790 he quarrelled with everybody as usual, until he died of apoplexy.

Mirabeau, Honoré Gabriel Riqueti, Comte de (1749-91), one of the greatest figures of the French Revolution. born at Bignon, was a son of Victor, Marquis de Mirabeau (q.v.). After a stormy youth, during which his father several times procured lettres de cachet for his imprisonment, he capped all former offences by running away with Mme. de Monnier, he himself being already married. After a brief sojourn in Switzerland, the two went to Holland, where M. carned a living by literary work. Having replied to his father's denunciations by some violent libels, he was arrested in defiance of international law and imprisoned at Vincennes for over three Here he wrote his famous Lettres de Cachet in the blank leaves of

ing for a time to England, he subsequently obtained leave to return to Paris. In 1786 he was sent on a secret mission to Berlin. Soon after his return he wrote an essay on La Monarchie Prussienne, and later published a full account of his mission, with all his private reports. This and other indiscretions led to his exile from Paris. But when the States-general were convened (1789), being rejected as a representative by the Provencal noblesse, he appealed to the people, and became deputy for Aix. Then came the great period of his career. In spite of his wild character, he had strong practical views in politics, despising empty chatter, and deprecating extreme measures on either side. His power with the people was immense. yet he sought to use it not to over throw but to re-model the monarchy somewhat on English lines. Had he lived a few years longer, and had the court followed his advice, the Reign of Terror might have been averted. See Carlyle's French Revolution; Charavay's Mirabeau, in La Grande Encyclopédie; C. W. Warwick's Encyclopédie: C. W. Warwick's Mirabeau and the French Revolution, 1905; and Mirabeau, by Louis

Barthou (French Premier), translated by G. W. Chrystal (1913).

Mirabeau, Victor Riqueti, Marquis de (1715-89), a French political economist, born in Provence. As an author, his Théorie de l'Impolition provent him e term of impresentant brought him a term of imprisonment, and afterwards seclusion on his estate, but continuing to write he founded a school of political economy. health and fortune were finally ruined by constant family quarrels and law-suits. He was the father of the

famous Honoré. famous Honoré.
Mirabella: 1. A tn. of Italy in the
prov. of Avellino, 13 m. S.E. by E. of
Benevento: pop. 7500. 2. A tn. of
Sicily in the prov. of Catania, 6 m.
N.W. of Caltagirone; pop. 5500.
Mirabilis, a genus of perennial
plants (order Nyctaginacea). M.
follows is the provid of Doru in

is the marvel of Peru, a ialana fragrant garden plant with flowers of various colours.

Miracle Play, a term used in England for the plays dealing with scriptural and sacred subjects from about the 13th century to the end of the 16th century. In France the term 16th century. 'miracle' was restricted to dramas dealing with the lives of the saints, while the scriptural plays were known as 'mysteries.' But this latter term was not used in England. The origin of the M. P. must be sought in the dramatic representations of the great events of the Christian year rendered liturgically in churches, especially at

example we have of such a liturgical drama dates from the year 967 (see Manly's Specimens of Prc-Shake-sperean Drama) and from this time the development is steady, blending both Norman and Saxon lines of growth. The stagecraft of the church dialogues the stagecraft of the church datalogues became more and more elaborate, until they had to pass into the open. Here the clerical element diminished, and lay actors took the place of priests and cantors. During the 11th and 12th centuries, the M. Ps. passed into the account of the control of into the monastery schools for teaching purposes. Originally, all these plays were in Latin and were dedicated to St. Nicholas, the patron of youth, but in the 12th century they were interspersed with French. The institution of the festival of Corpus Christi, instituted in 1264, but not commonly observed in England till a good many years later, gave a great impulse to pageantry, and the great 'cycles' of plays are nearly all con-nected with this feast. The 'cycle' consisted of a series of plays dealing with events from the Creation onwards, and each play was acted on a pageant ' or stage of two stories on wheels, which was dragged from place to place for the repetition of the drama. There are four main cycles extant, all showing traces of continuous redaction. The York cycle (15th century MS.) consists of forty-nine plays, the Wakefield or Townley plays (MS. 1450) are thirty-two in number, the Chester cycle (MS. 1475) has twenty-five, to be acted not at Corpus Christi but at Whit-The Coventry cycle (with suntide. sunude. The Coventry cycle (with forty-two plays) dates from the latter half of the 15th century. The plays were acted by the city companies, each company or guild being responsible for the production and acting of one play. The miracles are marked by considerable dramatic still and show in a semantic war. skill, and show in a somewhat un-developed form the treatment of all the main dramatic motives. A particular feature is their realism. Pollard's English Miracle Plays, etc., 1895, and in Dent's Everyman series, Everyman, with other Interludes, 1909.

Miracles. According to the defini-tion of St. Thomas Aquinas, 'A miracle is outside the order of all created nature; therefore God alone can work miracles by His own proper power, since He alone is not creature.' In the early and middle ages M. were considered as the most cogent proof possible of the truth of

Christmas and Easter. The earliest | however, what was once one of the chief reasons for giving assent to the Christian faith has become one of the chief obstacles to its acceptance, and the case has been rendered more complicated by the precipitance of certain over-zea' in their desire to to the modern eptable manner, have done their best entirely to remove the element of the mystery and the miraculous. The generality of critics, however, are not disposed longer to continue the task of removing the supernatural from the natural in the N.T. narratives. In the words of Dr. Bruce (Ency. Bib. ii., col. 2455). the healing ministry (in the Gospels) judged by critical tests, stands on as firm historical ground as the best accredited parts of the teaching. Spinoza was the first in modern times to make a vigorous attack on the credibility of M. His statement on the subject is that 'nothing happens in nature which is in contradiction with its universal laws, and thence, since M. are a violation of the laws of nature, he argues that they cannot happen. But 'the presuppositions of the critical mind need examining no less than those of the orthodox,' and here the presupposition lies behind the word nature. Does Nature include God and the spiritual world, or is Nature regarded as comprising the physical universe alone? ΙĬ former be the case, are M. contrary to its laws? Surely that is the whole point at issue. The English deists also denied the possibility of M., and the case against them was most ably He accepts the stated by Hume. He accepts the argument from experience, and turns it against Christians by appealing to the 'firm and unalterable experience which has established the laws of nature, and goes on, 'The conse-quence is that no testimony is suffi-cient to establish a miracle, unless the testimony be of such a kind that its falsehood would be more miraculous than the fact which it endeavours to establish. Or, briefly, it is contrary to experience that a miracle should to experience that a miracle should be true, but not contrary to experience that testimony should be false. Here again the point in question is taken for granted. As Paley pointed out—if by experience Hume means all experience, he begs the question, if he means general experience, he has merely proved what was never disputed, viz. that M. are uncommon. Spinoza had tried to eliminate the supernatural element. to eliminate the supernatural element Correstianity. The idea of the continuity of natural phenomena and of the unity of the universe was hardly thought of, and belief in M. presented difficulty to but few. Now, with their preconceived notions of the

Messiah. against M. does not, generally speaking, follow the lines of Spinoza or Strauss, of Hume or of Mill. It can briefly be summed up in the words of Matthew Arnold, 'miracles do not Matthew Arnold, 'miracles do not happen,' On the other hand, the position of a present-day apologist is well given in the words of D. Figgis (Gospet and Human Needs, ed. 1912, p. 12), 'Miracles are but the expres-sion of God's freedom; the truth that He is above and not merely within the order of nature. Disbelief in them really leads on to pantheism. playing this truth of God's liberty and personality, they arouse no deeper speculative difficulties than does the common daily fact of human free-will-perhaps even less. . . we have once surmounted the cardinal crux of human freedom, there is no real ground for boggling over miracles.' The literature of the subject is enormous. See especially writings of Hume, Pascal, Butler, Paley, Trench, Mill, M. Arnold, Westcott, Bruce, Newman, and Illingworth.

Miraflores: 1. A tn. of Colombia, S. America, in the state of Boyaca, 25 m.N.E. of Guateque. Pop. 12,000.
2. A seaside resort of Peruin the prov. of, and 4 m. S. of the city of Lina.

Mirage, the name given to various phenomena due to reflection and re-fraction of light in unusual states of the atmosphere: commonest and most striking in regions of calm subjected to great heat or cold, e.g. hot and cold deserts and polar regions. Generally speaking, two strata of different densities lying steadily one over the other give rise to two images. one direct and usual, the other an inverted reflection from the surface of contact. Thus clouds may be reflected from a thin stratum of dense air on the sand of deserts at sunset and after. giving the appearance of water; the convectional currents of air give a shimmering or wavy appearance, thus adding to the illusion. At sea, the layer of air on the water may in calm weather remain warmer for some height, giving an inverted reflection from above of ships below the horizon. In the early morning, the latter effect occurs over deserts, the former at sea. It is quite possible for the patient observer to find M. over roads in England by placing the eye a fow inches above the ground, e.g. in calm, hot weather, when the air is quivering. Looming is a form of M.; the object appears nearer and larger; it is well known at sea, when objects below the horizon are yet visible. Special instances are the 'Spectre of the Brocken' and the 'Fata Morgana' (a.v.). Owing to the rays of light coming over great distances, and the

The modern argument, variation in density gradual, they loss not, generally speak- are curved, and the image will be the lines of Spinoza or seen along the tangent of the ray at the eye; this accounts for the displacement.

Miragoane, a com. and scaport of Haiti, W. Indies, on the N. coast of the S.W. Peninsula, 50 m. S.W. of Port-au-Prince. Pop. 120,000.

Miraj, a native state of the Deccan.

Miraj, a native state of the Deccain, India, in Bombay Presidency. Area 564 sq. m. Pop. 125,000. Miraj, the cap., stands near the Kistna, 70 m. W. of Bijapur. Pop. 20,000.

Miramar, or Miramare, a magnificent Austrian imperial palace on the Adriatic, 6 m. N.W. of Trieste. It belonged formerly to Maximillan. Emperor of Mexico (1864-67), but is now thrown open to the public.

Miramichi, a river of Canada, rising in New Brunswick. Its course of 230 m. is generally N.E., emptying itself into Miramichi Bay in the Gulf of St. Lawrence. The port of Chatham stands at its mouth, and in the upper part of the river much salmon and trout fishing is carried on.

Miranda (formerly Guzman Blanco), a state of Venezuela on the N. Caribean Sea, W. of Bermudez. Moun-tainous in the N., it embraces also rich pastoral and agricultural regions, and fine coffee is produced. Ciudad de Cura and Ocumare are the chief towns. Pop. about 484,510.

Miranda (or Sá de Miranda), Francisco de (c. 1495 - c. 1558), one of the earliest Portuguese poets, studied law at Lisbon. He wrote in the 'Italian style '(using the metres of Dante and Petrarch), but mainly in Castilian. His poetical epistles and eclogues are his most noted works. He also wrote lyrics, sonnets, and comedies. See Collected Works (ed. 1595). also Michaelis Vasconcellos' ed. with biog.

(1885). Consult Machado, Bib. Lustiana; De Varnhagen, O Panorama.
Miranda, Francisco Antonio Gabriel
(c. 1752-1816), a Venezuelan patriot
and general. In 1806 he made an
unsuccessful attempt to found a rerepublic in Venezuela and them of the public in Venezuela and throw off the Spanish yoke. After 1810 he com-manded the patriot army there and was supported by Boliver. In 1812 M. was forced to sign a treaty yielding the country to the royalists. He established secret societies, such as established secret societies, such its the 'Gran Reunion Americana,' with which the 'Lautaro Society' was later affiliated (1812), and had much influence with European statesmen. See Biggs, History of Miranda's Attempt to effect a Revolution in S. America: Dumouriez, Mémoires.

Miranda de Ebro, a tn. of Spain in the prov. of Burgos, 44 m. N.E. of the town of that name, on the r. b. of the

Ebro. Pop. 6000.

Mirandola, a fortified tn. of Italy in the prov. of, and 17 m. N.N.E. of the city of Modenn. Pop. 20,000.
Mirandola, Giovanni Pico, Count Della (1463-94), a famous scholar of

the Italian Renaissance. He studied philosophy and science, and at the age of twenty-three he was one of the first of European scholars. Some envious rivals insinuating heresy in his doctrine, M. replied with a learned Apologia, and devoted himself thenceforth to an austere life. Becoming a professor at the Platonic Academy, Florence (founded by Academy, Florence (founded by Cosmo de' Medici), he published many learned works, including Heplaplus, a cabalistic work on the Creation, De Ente et Uno, an attempt to combine the teachings of Plato and Aristotle, and a treatise against astrology. Among his intimate friends were Lorenzo de' Medici, Politian, and other men of the greatest eminence.

Mirbelia, a genus of Australian shrubs (order Leguminosæ), with yellow, lilac, or purple flowers, some-times grown in greenhouses.

Mircea (1386-1418), voivode or prince of Wallachia, styled himself 'count' of Severin, despot of the Dobrudja and lord of Silistria, and was also master of Sistova and Vidin. As an ally of Sigismund of Human was also of Sigismund of Management of Sigismund of Sigis Hungary, his former rival, he was defeated in 1396 by the Turkish sultan, Bayazid I., but the following year he gained a victory over Bayazid at Craiova. In 1416 he lost Silistria to Sultan Mohammed I., and was obliged to acknowedge Ottoman dominiou.

Mirecourt, a tn. of France in the dept. of Vosges, on the R. Madon, 27 m. S. of Nancy. Pop. 5500.
Mirfield, a par. and tn. of W. Riding of Yorkshire, England, on the R. Calder, 4½ m. N.E. of Hudders-field. Those are collising and realfield. There are collieries and malting works near, and the chief manufs. are blankets, carpets, and cloth. Pop. (1911) 11,712.

Mirgorod, a tn. of S.W. Russia, in the gov. of Poltava, 50 m. N.W. of Poltava city, on the R. Khorol. Tiles and linseed oil are manufactured. It suffered much in the Polish wars.

Pop. 11,000.

Mirim (Sp. Laguna Merin), a coast lagoon in the extreme S. of Brazil in Rio Grande do Sul. Northwards it empties into the Lagoa dos Patos by the R. São Gonçalo.

Miropole, or Miropolye, a tn. of Central Russia, in the gov. of Kursk. on the Psiol R., 82 m. N.N.W. of Kharkoff. Pop. 11,000.

Mirror (Fr. miroir), an optical in-

Miranda do Corvo, a tn. of Portugal strument of glass or metal, having a in Beira. 10 m. S.E. of Coimbra. polished surface to reflect images. Pop. 6000. The use of Ms. is very ancient: they were known before our era in Greece and Italy, being then mostly thin plates of polished metal. Under the Cæsars silver Ms. were common. The back of the M. was often handsomely adorned with chasing or repoussé. In the middle ages, steel, silver, and glass Ms. were much used, the glass being backed with metal, especially lead. Modern 'silvered' Ms. were first known as Venetian, having been first made on a large scale at Murano. Their manuf, was first introduced into England in the 17th century.

Mirs Bay, an opening on the S. coast of China, E. of Hong Kong. Length 140 m., breadth 60 m. Great Britain leased the S. shore in

1898.

Mirza, a contraction of the Persian 'Emir Zadah' (son of the prince), meaning 'Mr.' when it precedes the surname and 'Prince' when it follows it.

Mirzapur, a tn. and dist. of the United Provinces, British India. on the r. b. of the Ganges, 30 m. from Benares. The town is noted for its

carpets and rugs. Other manuts, are shellac and metallic wares. Pop. of dist. 1,100,000; town, 80,000.

Misamis, a prov. of the N. coast of Mindanao, Philippine Is., including Camiguin Is. Its irregular coast-line contains Iligán Bay. There is much mountain and tenest land. Pice much mountain and forest land. Rice, abaca, cacao, sugar, and cotton are produced. The town of the same name in N.W. Mindanao is 55 m. from Cagayán. Gold, sulphur, copper,

and coal are round 180,000; town, 6080. The M. of property by any person who has been entrusted (solely or jointly with another) with or has received such property either for safe custody, or that he may apply, pay, or deliver the property or its proceeds for a particular purpose, or to a particular person, is a misdemeanour, punishable with penal servitude up to seven years (Larceny Act, 1901, replacing analogous sections in the Act of 1861). Bankers, merchants, brokers, and others guilty of M. are hit by this Act, while M. by trustees on an express trust created by deed or will. or by mortgages, or by factors, or agents generally, is similarly punishable under the Larceny Act of 1861 (see also LARCENY). It is difficult to see on what principle M, by the above kinds of bailees should be only a misdemeanour, while embezzlement by clerks or servants, i.e. persons usually much lower in the social scale, should be a felony, punishable

Miscarriago, see Abortion.
Misdemeanour, see Criminal Law.
Miseno Capo (ancient Miscaum
Promontorium), a promontory of S.
Italy, at the N.W. extremity of the
Gulf of Naples, 9 m. from Naples.
The ruins of the ancient Roman
port are near by. Under Augustus it
was an important naval station. The
Sarraens destroyed the old town in Saracens destroyed the old town in 890 A.D.

Miserere: 1. A name under which Psalm II. (Vulg. 1.) is commonly known. Four psalms commence with the words Miscrere mei Deus, but the pre-eminence of this psalm has led to the name being appropriated to it.
M. is the greatest of the penitential
psalms, and tradition states that it
was called forth by the prophet
Nathan's announcement to David of his sin. 2. An inaccurate form often found for misericord, a word derived from Lat misericordia, pity, and so applied to various relaxations of strict monastic rule. It is best known as the designation of a small ledge under the seats in quire, which, when the seat was turned up, formed a projection on which the monk could rest when standing.

Misericordia, or Brethren of Mercy, the most famous of the confraternities formed in Florence in 1240 for the seemly burial of the destitute. During the plague of 1348-49 they were very active in prosecuting their mission. The members, when on duty, wear a strange dress covering all but the eyes.

Mishawaka, a tn. of Indiana, U.S.A., in St. Joseph co., on St. Joseph R., 72 m. S.E. of Chicago, with manufs. of agricultural implements, machinery, and paper pulp. Pop. (1910) 11,886.

Mishmee Bitter, see Copyris.
Mishna, the traditional commentary on the written Hebrew law, handed down orally until about the beginning of the 3rd century of our era, when it was finally committed to writing. The M, consists chiefly of the discussions of rabbis between the year 70 and the time of writing. After 200, still further discussions on the law and the M. went on in the schools both of Babylon and of Palestine. These further discussions constitute the Gemara, which, with the M., forms

with penal scrvitude up to fourteen tracts of forest and pasture land. Years. See Embezzlement.
Miscarriago, see Abortion.
Misdemeanour, see Criminal Law.
Miseno Capo (ancient Miscaum Promontorium), a promontory of S.
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The prints of the ancient Bomes of Boxsod in the yellor of the ancient Bomes of Boxsod in the yellor of the property of the pr

prov. of Borsod in the valley of the Szinva, 24 m. N.E. of Erlau. The manufs, include, boots and shoes, porcelain, leather, snuff, etc., and in the vicinity are stone quarries and iron mines. There are large government iron and steel works at Dios-Gyor, 5 m. to the W. Pop. 44,000. Mispickel, or Arsenical Pyrites, a

mineral from which arsenic is pre-.cluded:

el-grey, Chiefly

obtained commercially from U.S.A.

and Germany.
Misprision (literally, neglect or contempt) means concealment of a crime in the sense of keeping one's knowledge of its commission to oneself without participation in it either as principal or accessory. In this its more usual sense (called negative M.) it closely resembles the act of an accessory after the fact who conceals a criminal. Positive M., on the other hand, means any great innominate misdemeanour or one not falling within a known category, c.g. maladministration of public officers (see also CRIMINAL LAW). M. of treason was formerly, but is not now, regarded as equivalent to the full offence.

Misratah, Masrata, or Mesurata, a tn. of Tripoli, on the N. coast, 118 m. S.E. of Tripoli. It is noted for carpets. Pop. 8000.

Misrepresentation. In the law of contract a M. or false statement of

cent. A M. to be fraudulent must amount to a mis-statement of a material fact and not a mere expression of opinion; the person making it must have known it to be false, or have made it either without believing it to be true, or recklessly, without caring whether it were true or false: it must have been intended by the the Gemara, which, with the Al., forms the Talmud. See Jews.

Misilmeri, an industrial tn. of Sicily in the prov. of Palermo, on the R. Bagaria, 8 m. S.E. of the town of Palermo. Pop. 13,000.

Misiones, a territory in the N.E. Argentine Republic, with the Parana R. separating it from Paraguay R. separating it from Brazil (S.E.). There are

action to enforce it and counterclaim | ambassador, for a declaration that the contract is void. If he elects to sue for rescission, he must do so within a reasonable time, so as not to involve loss to innocent third parties. The old common law gave no remedy for innocent M., but now all courts, conformably with equitable doctrines, will rescind a contract at the instance of a party who has been induced to enter into it by reason of a false though inno-cently made statement in a material particular; but the injured party is not entitled to claim damages, except (1) under the Directors' Liability Act, 1890, for false statements in a company prospectus. But it is a good defence that the maker had good ground for believing his statement to be true (2) Against an agent who holds himself out as being authorised to contract for another when he is not. Missal, the book containing all the

prayers and official ritual required for the due celebration of Mass throughout the year. The office of the Mass consists of an invariable framework known as the Ordinary, and a large number of prayers, etc., which change throughout the year. Formerly these variable portions were found separate volumes, such as the Antiphonary, Graduale, Episiolarium, etc. The process of combining them into one volume became general before

1000 A.D., probably arising about 900.
Missel Thrush, Mistletoe Thrush, or
Holm Thrush (Turdus viscivorus), a
common bird throughout England
and most European countries. The male is 11 in.long, and is the largest of British thrushes and also of British song birds. Its colour is greyer than the song thrush, and in flight a white tail feather is shown upon each thigh. The song is not so varied and melodious as that of the song thrush. The eggs are bluish white, spotted with purplish brown. The food consists principally of berries and insects. It is sometimes called the 'storm cock.'

Mission, a foreign legation, or, col-lectively, the members of an embassy, as, e.g., the British M. at Peking. Secretaries and attachés are not, as a rule, employed in the same M. or embassy for more than two years, subject to the Foreign Secretary deciding to extend the term for public reasons. heads of Ms. at foreign courts ma not exceed five years, at the end which time the appointment is r newable by the Foreign Secretary, desirable on public grounds. Members of Ms. retire at seventy years of sionising of Germany by the Englishage. The chief of a M. is styled in the man, Wilfrid or Boniface, and in the Foreign Office regulations 'minister,' next century an attempt was made to whether his official title be that of carry the faith to the Northern

minister. \mathbf{or} chargé d'affaires. Missions. The command given by

Jesus to his disciples to preach the gospel throughout the world, bap-tising in the Triune Name, has been carried out by Christians in every age, though sometimes with but little During the first centuries the vigour. spread of the faith was exceedingly The Book of the Acts of the rapid. Apostles tells of the evangelisation of Asia Minor, and the introduction of the Church into Europe. In the 2nd century Roman Gaul largely accepted the faith of Christ, and one of the most important documents of the century is that telling of the persecutions at Lyons in 177, when Pothinus was bishop. To this century we may possibly assign the introduction of Christianity into England (Bede, Hist, Eccles. cap. v.). N. Africa was early visited by missionaries, and during the early centuries the African church was one of the most vigorous and flourishing. The dates of the beginnings of missionary enterprise to the E. of Palestine are uncertain. By the 3rd century there was a flourishing church in Persia and also in Armenia. During the 4th century Christianity continued to spread in Gaul, England, and Spain (all of which countries suffered under the persecution of Diocletian), and was introduced into Abyssinia and Switzer-land. In 376 the Goths were allowed by Valens to settle in the province of Mœsia, where they immediately came under Christian influence. Whether their first missionaries were Catholic or Arian is uncertain, but at the end of the century their bishop, Ulfilas or Wulfila, famous for his translation of the Scriptures into Gothic, was cer-tainly an Arian, and most of the mis-sionary work that followed amon-Visigoths and Ostrogoths was of this type. In the 5th century occurred the evangelisation of the Irish under St. Patrick and of the Frankish peoples who had entered Gaul from beyond the Rhi

passed Scotlan ciated

Columba, Aidan, and Cuthbert. Augustine's M. to England landed in 596, and in the century that followed the faith spread once again over the The duration of the appointments of land, whence it had been swept away

Scandinavian races, and this work was continued during the three following centuries among the Danes, Norwegians, Icelanders, Poles, Magnar, and the Slavs of Eastern Europe. By the 11th century Russia was mainly converted. During the 13th and 14th centuries missionary enterprise slackened, and a time of reaction set in.

The 15th century was one of great expansion, and the discovery of a new continent beyond the seas opened fresh fields of vast extent for missionary enterprise. The work was mainly taken up by Spanish Dominicans, Franciscans, and Jesuits. It is to these societies that Roman Catholio missionary work has been mainly confided. To the last named belonged the best known of the missionaries of

icis Xavier, who the East from ince the Jesuits made their way to China, where but little was done till the time of Father Ricci (q.v.). In 1663 the Seminary des Missions étrangères was founded in Paris, and Roman Catholic missionary work was carried on mainly in the Indo-Chinese peninsula. In 1822 L'Œuvre de la Propagation de la Foi was founded at Lyons, to supply the foreign M. of the Church with men and money, a work which it has carried out with marked success. more recent times St. Joseph's College of the Sacred Heart for Foreign Missions has been founded in England by the exertions of Bishop Vaughan for the education of missionaries. Roman Catholic missionary organisations come finally under the jurisdiction of the Sacred Congregation of

Propaganda at the city of Rome.

The countries which broke away from the Roman obedience at the time of the Reformation felt at first unable to undertake the charge of any M. The first government to take the work in hand was the Council of Geneva, which in 1555 sent missionaries with a colony to Brazil at the advice of Coligny. But the colony was destroyed and the attempt failed. Four years later Gustavus Vasa of Sweden attempted the conversion of the Lapps in the N. of his own dominions, again with but little success. These two ventures were the beginning of Protestant missionary work, but hardly any progress was made for over a century. A few details may be registered. When the Virginia Company took up the colonisation of America, it was provided that the colonisation should be accompanied by missionary work, and in aid of the expenses of this Sir Walter Raleigh gave £100. In 1602 the Dutch East India Company tried

colonies, but the conversions were mostly conversions only in name. The attempt, however, was attended with success in Java and the surrounding islands, for here the Scriptures had been made available in a franslation. In 1621 the Dutch made an attempt to found a M. in Brazil. The question of foreign M. received the consideration of the English parliament during the Protectorate of Cromwell, and as a result the Corporation for the Propagation of the Gospel in New England was founded in 1649. With this was founded in 1649. corporation was connected the famous missionary John Eliot, the first to translate the Bible into a heathen language in modern times. His Indian Bible was published in 1683. Two years before the close of the century a great event occurred of special importance in the history of M. The Society for Promoting Christian Knowledge was founded within the Churchof England in 1698, and since that date the scope of its activities has been ever widening. It now issues about fourteen million copies of tracts or books each year. The work of the S.P.C.K. was supplemented in 1701 by the foundation of the Society for the Propagation of the Gospel in Foreign Parts, intended primarily for promoting Christian religion in our foreign plantations. Within the last hundred years the scope of its activities has been immensely increased, and it now undertakes missionary work in all parts of the globe. It has now over 700 missionaries, male and female, working in nearly 5000 stations throughout the British Empire. To the S.P.C.K. belongs the credit of having saved the Danish M. to India (founded in 1704) from the to India (tounded in 1704) from the extinction with which it was threatened after the death of its founder. The first Christian body to take corporate action in the matter of foreign M. was the tiny community of the Moravian Brethren, who in 1732 sent out their first missionaries to St. Thomas in the W. Indies. They have now stations in Greenland, N. and S. America, S. Africa. Australia, and America, S. Africa, Australia, and Tibet. In 1906 they had 200 male workers, 194 female workers, and 1838 The example and native helpers. The example and writings of the Moravian Brethren. together with the influence of such men as Whitefield and Wesley, did much for the revival of religious en-thusiasm in England, and from this time date the foundation in England of a large number of Protestant societies for carrying the gospel to the heath and some be well to .

Society was founded in 1792, and United Methodist Free Churches Home Carey was rounded in 1792, and United Methodist Free Churches Home Carey and Thomas were sent as its and Foreign Missionary Society first representatives to the shores of (founded 1857), with 40 missionaries India. Ever since that time William in Australasia, China, Africa, and Carey, the shoem:

One of the most fascin Land United States Foreign Missionary Society 840), with 11 missionaries in the history of

The London Miss founded in 1795. ginning the name of The Missionary | work among t

tirely in the hands of Independents. The first work undertaken by the L.M.S. was in the South Seas, and it has since extended to S. Africa, India, China, Madagascar, and New Guinea, besides devoting much energy to the conduct of home M. It has 285 missionaries and an annual expenditure of some £150,000. In 1797 was founded the Society, which took its partial founded the Society, which took its part in 1812. The C.M.S. represents a large of the Evangelleal party in the Church, while the S.P.C.K. lays more stress on the Catholic aspect of Anglicanism. It is the greatest of the Church of England societies, with an income of about £100,000. It has in its service 410 ordained and 155 lay missionaries, 1360 natives in orders, and 400 women. Connected with it is the Church of England Zenana Missionary Society of England Zenana Missionary Society (sparate societies. The Friends Foreign Missionary Society was organised in 1850, and with an income of a sthe Oxford of about £22,500 supports 68 missionaries, chiefly in Madagascar, but support of the University of founded the Church Missionary connected several small M. to pariganised in 1861, and with an accome ticular districts, such as the Oxford of about £22,506 supports 68 missions to Calculta (founded 1881), and the Bombay and Poona Missions (founded 1865), carried on by the Cowley Fathers of the Society of St. John the Evangelist. Other prominent Church of England M. of more restricted scope than the M. described above may be briefly noticed here. restricted scope than the M. destated above may be briefly noticed here. The Melanesian Mission was founded in 1841 by Rishop Selwyn, and is conscient in connection with the nected principally with New Zealand. The Universities' Mission to Central Mission. It is impossible here to speak in detail of the American mission was founded in 1859, and has Africa was founded in 1859, and has about 150 workers in the districts it about 150 workers in the districts it sionary societies, of which the chief serves. It also supports two bishop- are the Board of Commissioners for the societies of arose in

Thomas C missionary in the W.

great success, and was anic in 1004 to pla-Au

aries at work, and of nearly £125.000. M. are the Methodi Missionary Society with 9 missionarie

 $\mathbf{n}\mathbf{d}$ nariesin Africa. Presbyterian y societies were founded by Presbyterians in 1840 and

Though its undenominational character still remains, it is now almost entirely in the hands of Indonesians. 38 in China. The carrying on of foreign missionary undertakings as a definite part of its work was first urged upon the Presbyterian Church of Scotland in 1824 by Dr. Inglis, and his motion was successfully carried through. Before that time some undenominational work had been done genominational work had been done by the Glasgow Missionary Society and the Scottish Missionary Society. The state church has now 123 European missionaries working in India, Africa, and China. Its income is above 250,000. The United Free Church Missionary Society is a triumph of enthusiasm and skiffind cranica.

and Preshy-To all Pro-missionary work the Bible

and dialects dis-- ocietu s in a war and also does much work in this

following statistics of ssionary societies are S. Dennis's Centennial ign Missions, 1902:

		E.	Stations		
National or Continental Division	Number of Societies	Total of Foreign Missionanes	Príncipal	All other Stations	Nativo Christians
American Continent . Great Britain and Ireland . Continent of Europe . Asia Australasia and Oceania . Africa	128 154 82 117 35 42	5,203 9,434 2,519 508 487 531 18,682	1,490 3,765 776 226 240 822 7,319	7,351 9,078 2,371 594 1,516 2,307 23,217	1,653 417 1,428,469 537,724 255,323 167,477 481,154 4,523,561

françaises, and the publications of the Propaganda. For Protestant M. and M. in general, see A. Beer's Foreign Missions, what they have done and how they may be extended, 1909; G. A. Gollock's Story of the Church Missionary Society, 1909; J. Richter's J. Richter's Allgemeine evangelische Missions-geschichte; G. Warneck's Outline of a History of Protestant Missions, 1906; E. M. Bliss's The Missionary Enter-prise, 1908; H. H. Montgomery's Mankind and the Church, 1907: Lovett's Hist. of the London Missionary Society, 1899; Guinness's Story of China Inland Mission; W. A. Tatchell's Medical Missions in China, See also biographies of the 1909. great missionaries and the publications of the various missionary societies.

Mississippi, a southern state of the U.S.A., bounded on the N. by Tennessee, on the S. by the Gulf of Mexico and Louisiana, on the E. by Alabama and the R. Mississippi, and on the W. by Louisiana and Arkansas. The general surface is low with a trend towards the S. and S.W. A few miles from the shore is a chain of low sandy islands, which forms the Bay of St. Louis on the W. and Pascagoula Sound on the E. The delta region and the littoral generally is sandy and unhealthy, but there are immense cotton, rice, and tobacco crops in the lowlands by the Mississippi R., and its sluggish tributary, the Yazoo. Farther N., on the uplands and bluffs, pine, oak, walnut, and magnolia trees

See for Roman Catholic M., Hen-rion's Histoire des Missions Catho-tiques; Durand's Missions Catholiques bottom lands. The soil is, on the whole, extremely fertile, and agriculture is a very important industry; indeed the state is the greatest cotton growing country of the world. Indian corn, rice, wheat, rye, and oats are also grown in large quantities, and the sugar-cane is cultivated in the southern part of the state. The principal vegetable is the sweet potato, but the common potato, peas, and beans, and most of the vegetables known to European countries are also Plums, peaches, figs, and grown. are abundant. Manufe., oranges formerly confined to the requirements of an agricultural state, are improving, and among the chief are lumber and timber, turpentine and resin, cotton-seed oil and cake, cotton goods. and fertilisers. Cap., Jackson (21,262); chief towns, Meridian (23,285) and Vicksburg (20,814). M. was ceded by the French to Great Britain in 1763; in 1798 it was organised as the territory of the Mississippi. In 1817 the territory of Alabama was organised from the Mississippi territory, and in the same year Mississippi was admitted to the Union. The state suffered from flood in the spring of 1912. A dike at Greenville burst, and about 1300 sq. m. in the lower Yazoo district were inundated. Area about 47,000 were inundated. Area about 47,000 sq. m. Pop. (1910) 1,797,111, of which 1,009,487 are negroes. This shows an increase of the total pop. of 15'8 per cent. over 1900, as against 20 per cent. of 1900 over 1890.

Mississippi River, the most important river of N. America, rises in the state of Minnesota in the basin of abound, but in the islands and eandy the state of Minnesota in the basin of southern districts pine trees alone are Lake Itasca and flows into the Gulf plentiful. The chief rivers are the of Mexico. It is, with the Missouri. Mississippi, the Yazoo, the Big Black, its chief trib., the longest river in the the Pearl, and the Pascagoula. The world (4221 m.), and drains an area climate is nearly subtropical, but of about 1,250,000 sq. m. Its chief tributaries are: on the E., Winconsin, Currants and valonia are exported. Illinois, Ohio, and Yazoo; and from the W. Minnesota, Des Moines, Missouri, Francis, White, Arkansas, and the Red rivers. It is still important Fork, Columbia R., 90 m. N.W. of commercially, although a good deal of its traffic has been diverted to the railways, and has on its banks many important towns, St. Paul, La Crosse, Prairie du Chien, Dubuque, Muscatine, Burlington, Quincey, and Hannibal on the upper river, i.e. the M., from the source to the mouth of the Viscourie and St. Louis Carlo Man Missouri, and St. Louis, Cairo, Mem-phis, Vicksburg, Natchez, Baton-Rouge, and New Orleans on the main river. drawback

occurrence

in 1912. when happened great damage was done.

Mississippi Scheme, or Mississippi Bubble, a financial scheme projected by John Law at Paris in 1717 for the colonisation and cultivation of the banks of the Mississippi. Shares were issued which rapidly rose in value owing to the report that there were gold and silver mines in those parts; and the company, which assumed the title of the Compagnie des Indes, undertook the management of the mint and farmed the revenue from the government, so that not only did the company control practically the whole colonial trade, but it had in its hands the management of the currency and the finance of France. By 1719 shares had risen as high as \$4000, and in 1720 Law made an attempt to amalgamate the company and the Banque Royale. Then came the crisis, people began to lose con-fidence, and a run was made on the

ndence, and a run was made on the bank, which eventually stopped payment. Law escaped from France in December of the same year.
Missive, in Scots law, denotes documents, the interchange of which between parties is effectual to conclude a binding sale or lease. A M., unless holograph (q.r.), must be witnessed and authenticated as a witnessed and authenticated as a probative deed; if holograph, the acceptor prefixes in his own hand-writing a copy of the offer made by the other party. No action can be brought on an unstamped M. Radical defects in a M. cannot be cured by

oath. Missolonghi, Mesolonghi, \mathbf{or} fortified tn. on the Greek coast, in the prov. of Acarnania and Ætolia, situated in a marshy plain, covered with olive plantations, N. of the Gulf of Patras., It is famous for the sieges it has undergone, having sustained three sieges by the Turks in 1821. 1823, and 1825-26. Lord Byron died here on April 19, 1824, and a mounment was erected in his honour.

Fork, Columbia R., 90 m. N.W. of Butte City. It is the seat of the Montana University. Pop. (1910)

Missouri, one of the United States. lying midway between the Atlantic and the Rockies. It has an area of 69,415 sq. m. The Mississippi flows along its E. border. E. and W. the state is traversed by the M., into which flow the Grand, Chariton, Osage, and Gasconade. The St. Francis and Big Black are affluents of the Mississippi. Northward of the M. are rolling prairies and forest lands, whilst to the S. is a region of plateau, known as the Ozark Mts., and also much marshy and cultivated territory. The chief industry is agriculture; in 1912 the maize crop amounted to 243,042,000 bushels, and oats, wheat, potatoes, fruits, and cotton are also grown. Cattle rearing is important; 2,714,000 hogs were raised in 1910. M. is rich in minerals. Coal is produced over an area of 14,000 sq. m., especially in Bates, Lafayette, and Roy counties, and the Latayette, and Roy counties, and the outputs of zinc and lead are more than twice as valuable as that of coal. Limestone, Portland cement, hematite, iron, etc., are also produced. St. Louis, the capital (pop. (1910) 687,029), and Kansas City (pop. (1910) 248,381) are the chief markets for live stock and cereals, white St. Logarh (pop. (1910) 77,403). whilst St. Joseph (pop. (1910) 77,403), Springfield (pop. (1910) 35,201), and Joplin (pop. (1910) 32,073) are other great centres of commerce. There are universities at M., Wash-ington, and St. Louis. Pop. (1910) ington, and St. Louis. 3,293,335.

Missouri ('Big Muddy'), the largest trib. of the Mississippi, being 3047 m. long and 3000 ft. broad at its mouth. Rising among the Rockies in Wyoning and Montana, it passes northward through wild gorge northward through a wild gorge flanked with precipitous cliffs and known as 'the Gate of the Moun-tains.' Some 110 m. below this gorge and 40 m. above Fort Benton are the four Great Falls, the grandest of which is a sheer extenct of ""." of which is a sheer cataract of 87 ft. of which is a sheer cataract of 87 ft.
After receiving the Milk and the
Yellowstone (1152 m.) rivers, it
flows S.E. through the Dakotas as
far as Sioux City. It now separates
Nebraska and Kansas on the W. and
Iowa and Missouri on the E., and
after traversing Missouri enters its
main stream 20 m. above St. Louis.
The river is navigable almost to the
Great Fells (that is within 2985 m of Great Falls (that is within 2285 m. of the mouth).

Mist, see Fog.

Mistake. As a general rule, one thacew), parasitic on a large variety party to a contract cannot escape of fruit and forest trees, but prinliability to perform his part of it on the ground that he understood its terms in a different sense from that in which any reasonable person would have understood them. But if a mutual, as distinct from a merely unilateral, M. is proved to the satisfaction of the court, the contract may be set aside. On the other hand, unilateral error will afford ground for rescission if mistaken belief as to the real meaning of the agreement was induced by the conduct, innocent or otherwise, of the other party. If the offer and acceptance essential to the formation of a contract never agreed in terms, there never was a contract at all, not because either party has made a M., but because there was a want of mutuality. The net result is the same, however, as in the case of a genuine mutual M. Mutual error of intention (as distinct from error in which, expressing that intention, though ground for rectification, is not ground for upsetting a contract) practically only arises where parties contract for or about a thing which has never had, or has ceased to have, any existence, or are mistaken as to the identity of the particular thing about which they are contracting, or as to the identity of one another, A M. due to ignorance of a general rule of law, as distinct from ignorance of a particular right, affords no ground for relief. Where M. does excuse, the remedy of the mistaken where the contract is still executory (q.v.) is to sue for a de-claration that the contract be rescinded and any money paid under it refunded to him. Sometimes, in the case of unilateral error, the court will decree rectification of the terms instead where the mistaken party is willing to take such relief.

Mistassini, a lake of Quebec, Canada, 120 m. in length and 20 m. in width. It drains into James Bay by Rupert R. The Little Mistassini lake stretches parallel on the E. side of the greater lake.

Mis Tor, Great and Little, are two hills of Devonshire, England, on Dartmoor forest, 16 m. E.S.E. of Launceston. The former reaches a height of 1767 ft., and the latter 1600 ft.

Mistek, a com. of Austria in oravia, 27 m. S.E. of Troppau. Moravia.

Pop. 8729.

cipally on the apple. It may be easily established on a tree by rubbing on the berries when ripe (at the end of February) upon the under side of young healthy branches. Growth is very slow at first, and male and female shrubs are produced separately; the former, of course, bear no berries.

Mistletoe Thrush. MISSEL THRUSH.

Mistral, a strong, chilly wind Mistral, a strong, chilly wind blowing from the N. down the Rhone Valley. 'Le Parlement, le Mistral, et la Durance, sont les trois fléaux de la Provence.' Related to the Bora (cf. BOREAS) and Tramonlana; all winds blowing from the cold mountain regions N. of the Mediterranean; often as the rear winds of a cyclone; somewhat like the English north-easterns. Dangerous to fishermen and destructive to fruit

blossom. Mistral, Frederic (b. 1830), a Provençal poet, son of a farmer in the Bouches du Rhône. On leaving school, M. tried farming, then law, and finally devoted himself to litera-In 1859 he, ture. Roumanille, Mathieu, and others, founded the Félibrige, an association for the cultivation of Provencal literature. Among the most noteworthy of M.'s numerous works, are: Mircio, a numerous works, are: Mateu, a rustic tragedy; Calendau, a mixture of legend and allegory; his Rhône epic, Lou Pouemo dou Rouse; and Lou Tresor des Fellibries, a collection of proverbs and folk-lore. In 1904 M. received one of the Nobel literary awards.

Mistretta, a tn. of Sicily in the prov. of Messina, 34 m. N.N.E. of Caltanisetta. Pop. 14,000. Mitau, or Mitava (Lat. Mittavia, Lettish Felgava). the cap. of Courland gov.. W. Russia, on the As. 25 m. S.W. of Riga. It was the residence of the Courland dukes in the 16th century. There are tanneries, flax and saw mills. and olieloth flax and saw mills, and ollcloth

works, etc. Pop. 35,000.
Mitcham, an ancient Surrey vil., situated on the Wandle. Its principal feature is the common, which has an area of some 480 acres. Market gardening was formerly the principal local industry, rhubarb, mint, liquorice and other medicinal plants being a speciality. It has an excellent soli course and cricket club, and still maintains its annual fair in August.

Misterbianco, a com. of Sicily in the prov. of Catania, 44 m. N.W. by W. of the town of that name. Pop. 9000.

Misti Mountain, Peru, see EL Misti. Mistloto, or Viscum album, a shrubby evergreen (order Loran-profession and accepted a place on

the staff of the Nation. In 1848 he and Tear, or Hints for the Overworked issued the first number of the United (4th ed., 1874); Fat and Blood (4th Irishman, and having in its pages ed., 1885). Well known for his adiacited his fellow countrymen to revocacy for the treatment of nervous bellion. he was sentenced to transportation for fourteen years. He ultimately reached Van Diemen's Land, but in 1853 escaped to the U.S.A., where he was greatly wellowed. Here he published the Citiz was the scene of a riot was the s cen, etc., but his seeing that he sl

advocate of slaver, advocate of slaver, returned to Ireland. He was elected Arachnids comprising, with the ticks, returned to Ireland. He was elected to a coder Accorded to the Arachnids of them are returned to Ireland. He was elected member for Tipperary in 1875, declared incligible, and re-elected, but died the same year. He wrote: The Life and Times of Aodh O'Neill, 1846; Jall Journal, or Five Years in British Prisons, 1854: The History of Ireland, from the Treaty of Limerick to the Present Time, 1868.

Mitchell: 1. The cap. of Davison co. S. Dakota, U.S.A., 65 m. N.W. of Yankton. Dakota University (founded 1888, Methodist Episcopal) is situated here. There are machine and railroad shops, brickyards, etc. Pop. (1910) 6515. 2. A tn. of Perth co., is a troublesome pest in greenhouses,

railroad shops, brickyards, etc. Pop. (1910) 6515. 2. A tn. of Perth co., Ontario, Canada, on the Thames R., 32 m. from London. It has numerous mills and factories. Pop. 2000. 3. A minor group of the Ellice Is., Pacific Occan.

Mitchell, Mount, the highest mountain of U.S.A. (6710 ft.) E. of the Rockles. It is in the Black Mts., Yancey co., N. Carolina.

Mitchell, Donald Grant (1822-1908),

an American author, born in Connecticut, and graduated at Yale in 1841. He wrote on gardening and agriculture, and on his travels in Europe and America. He also wrote some literary studies, English and American, but his best work, under the pseudonym of Ik Marvel, was con-tained in Reveries of a Bachelor and

Dream Life.
Mitchell, Peter (1821-99), a Canadian statesman, born in Newcastle, New Brunswick, Canada. Called to the bar in 1848. He was appointed senator in 1867, but resigned seven years later. He wrote: A View of President Grant's Recent Message to the View of Canada States.

the

Wynne, Free Quaker, 1897; The Adventures of François, 1899; Dr. North followed by a fand his Friends, 1900; Circumstances, Force. In 17 1901: A Comedy of Conscience, 1904; volume of his Constance Trescoll, 1905; A Diplopheted in 1818 in five volumes. See matic Adventure, 1906; The Red City, Macaulay, Review of Milford's His-1909. Medical works include: Wear tory of Greece.

ans- ailments by 'rest cure' (see Weir-He MITCHELL TREATMENT).

me Rulers and the police

Mitford

large number of small

is a troublesome pest in greenhouses, extracting the juices of plants. A number of M. live in cheese, flour, and other food-stuffs. They are conveyed from place to place in the larval stage by attaching themselves to flies. Some M. live entirely in the water, and many are parastic on insects. In the aggregate, they exhibit almost infinite variety of structure.

Mitford, Mary Russell (1787-1855), Mittord, Mary Hussell (1787-1855); a novelist, began her literary career by publishing a volume of Missellaneous Poems at the age of twenty-three. In 1823 Macready produced her tragedy, Julian, at Covent Garden. Of her several plays the best was Rienzi, 1828. In 1819 Miss M. began to print in a forgotten periodical the series of sketches known as Our Villane which deservedly caught the lage, which deservedly caught the public fancy, and were collected in book form in five volumes between 1820 and 1832. In 1852 she brought out Recollections of a Literary Life, or Books, Places, and People, which contains much interesting autobiographical matter. Mary Russell Milford: Her Life and Friendship, 1913, by W.

Roberts, contains much information.
Mittord, William (1744-1827), an
English historian, born in London,
at Queen's College, Oxford.

v at the Middle Temple. e published Inquiry into the

Mithras a great Persian deity, whom the Zoroastrians conceived of as a champion of Ahura-Mazda in his eternal combat with Ahriman, the prince of evil. He was early identified with the sun-god, and as such was the centre of a cult, which was introduced to Rome by certain pirates from Cilicia in 68 B.C., and thence spread even to Britain, whither it was doubtless brought by the Roman legion-aries, soldiers being the special devotees of M. The Mithraic rites included an elaborate process of mystical initiation, and a symbolic celebration of Mithra's birth. In the British Museum there is a fine sculpture showing the god as a beautiful youth with a woman's face in the act of slaying a bull.

Mithridates, more properly Mithra-dates, being derived from Mithras, the sun-god: the name of three kings of Parthia, and several kings of Pontus. The Parthian Mithridates II. defeated a Mongolian invasion, partly conquered Armenia, and was the first Parthian monarch to negotiate with The greatest of the Pontic line was Mithridates Eupator (c. 132-63 B.C.). His father was murdered 121 B.C., and his mother plotted against her son's life, but he escaped and after some adventurous years regained his kingdom, imprisoned his mother, and began a career of conquest by ravaging Cappadocia and Bithynia. Declaring war against Rome he raised an army of 300,000 men, with a large fleet, defeated the Roman forces in Asia Minor, and

varied success, a final victory by Pompey crushed the power of M., who then committed suicide. Mitla, a vil. of Mexico, 30 m. E. by S. of Oaxaca, containing the remains of some ancient palaces and tombs. Consult Saville, 'Cruciform Struc-tures near Mitla,' in Bulletin of American Museum of Natural History Consult Saville,

conquered a large part of Greece (58 B.C.), but was afterwards defeated, and driven back to Pontus. After several further years of fighting with

(vol. xiii.), 1900.

Mito, a tn. of Japan, of the prov. Hitachi, 65 m. N.E. of Tokyo. It has manufs, of paper, cloth, etc. Pop. 38.000.

Mito, see MYTHO.

Mitrailleuse, see Machine Gun.

Mitraria Coccinea, an overgreen flowering shrub of the order Ges-neraceæ, sometimes grown in cold greenhouses and sheltered borders , and rockeries.

Mitre, the ordinary head-dress of bishops of the Western Church when vested. It exists in many shapes of which it is generally agreed that the later medieval form is the most

beautiful. It consists of two stiff parts united by soft material, so that they can lie flat on each other when the M. is not in use. It is worn by

bishops, cardinals, and mitred abbots. Mitscherlich, Eilhardt (1794-1863). Miscorence, Elinard (1797-1803), born at Neuende, Oldenburg; edu-cated at the gymnasium at Jever; Heidelberg University; studied philo-logy. Studied chemistry at Göt-tingen, then under Luik in Berlin. His work in crystallography led to the theory of isomorphism, com-municated to Berlin Academy (1819), for which he received the gold medal of the Royal Society of London. Published Lehrbuch der Chemie, 1833; also papers to be found in Abhandlungen, Berlin Academy; Poggendorf's Annalen; Annales de Chemie et de Physique.

Mittagong, a tn. of New South Wales, Australia, in Camden co., 58m. S.W. of Sydney. Coal - mining is

carried on. Pop. 1500.

Mitterburg, see PISINO. Mittimus, in old English law: 1. A precept under the hand and seal of a justice of the peace directed to a gaoler commanding him to receive and safely keep a person charged with an offence named in the M. until he be delivered in due course of law. 2. An obsolete writ calling upon the appropriate officer in a palatine to command the sheriff to summon a jury for the trial of a cause.

Mittweida, a th. of Germany, is Saxony, 12 m. N.E. of Chemnitz Manufs. include textile fabrics and earthenware, and there are dyeworks.

engineering works, and an electro-technical institute. Pop. 17,795. Mitylene, see LESBOS and MYTLINI. Mivart, St. George Jackson (1827-1900), a biologist, educated at King's College, London. Joined the Roman Catholic Church, 1844. Wrote Lessons in Elementary Anatomy, 1873; Common Frog, 1874; elected professor of botany and zoology at Kensington Roman Catholic University College; received degree Ph.D. from the Pope in 1876, and M.D. from University of Louvain, Belgium, 1884; occupied the chair of the philosophy of natural history at Louvain, 1890-93. Just before his death was excommunicated by the Roman Catholic Church. Took part in the winism and

Genesis of S Apes, 1877; C 1889; Introdi de la Nature, etc.

Mixtees, or Mixteeas (Fr. Misteques, Mexican mixtua, dweller in the land of clouds), an ancient civilised Indian race who migrated from the N. to S Mexico, settling in the states of Oajaca, Guerrero, and Puebla, Central America. and peaceably inclined, but brave warriors. Tepascoluta, Yanhuistlan, and Huajuapan are their chief cities.

They number about 200,000.

Mixtures. If molecules of different kinds, whether elements or compounds, be brought together with the result that they merely mingle together without losing their identity, then we have what is termed a mechanical M. in contradistinction to the term chemical compound. such a mechanical M. the properties will be intermediate between those of the constituents, while these constituents can always be separated by purely mechanical means, and further the proportions of these constituents can be varied and are not fixed. Thus gunpowder, a dark grey solid, is composed of black charcoal, yellow sulphur, and white nitre, all of which are solid. The M. evidently possesses a colourintermediary between the three given colours, and further it possesses the saline taste of the nitre. By making use of the solvent properties of the constituents, the M. can be separated again into its component parts. Thus, since nitre is the only one soluble in water, it can be dissolved away in water, leaving the charcoal and sulphur behind. Then, since charcoal is soluble in carbon bisulphide, it can be dissolved out in this liquid, leaving the sulphur behind. Besides separation in this manner by solubility differ-ences, other qualities can be made use

of differences in density, gas-can be separated by diffusio and light and heavy solids by wash-century B.C.), a poet famous for his ing; because of differen

ing; because of differen liquid M. can be sept tional distillation (q.v of difference in size of can be separated b filtering,

Miyadzu, Miyazu, or Miyatsu, a fishing ta. of Hondo, Japan, in the prov. of Tango, 50 m. N.W. of Kioto. The celebrated 'Heaven's Bridge' is here, which is a narrow headland, and regarded as one of the 'three great sights' of Japan. Pop. 10,000.
Miyask, a tn. of Russia, in the gov.

regular intervals of about 52 days double dark lines in spectrum; deduced primary to be two stars, equal using further letters other than those magnitudes, revolving in orbit turned in the system, e.g. 'thickheads,' edgeways to earth; relative velocity, which has the further advantage of

They were agriculturists 100 m. per sec.; period 104 days; ably inclined, but brave distance between, 140×106 m.; united mass 40 times that of sun. (1900-1) gives period, 20.6 days; distance, 28.33×106 m.; mass, 9 times that of sun. Alcor, magnitude 5, is 111 min. distant.

Mizpeh, or Mizpah, the name of several cities mentioned in the O.T. It is thought that the modern towns of Sh'afat, near Jerusalem, and Sûf, which is 36 m. from the ancient Heshbon, have grown up on the ruins of former Ms. (1) M. of Benjamin was the scene of the gathering of the Hebrews af'

Benjamites . ministration

Gedaliah's assassination (2 King-xxy.). (2) Jacob made his peace with Laban (Gen. XXXI.), and Jephthah took his vow (Judges XI.) at M. of Gilead, and (3) David met the Moabite king at M. of Moab (1 Sam. xxii.),

Miosen, or Miosen, the largest lake of Norway, situated in Hamar and Christiania. Its length is 55 m., and the greatest width 12 m.; it covers an

area of 150 sq. m., Mlawa, a tn. in Russian Poland, in the gov. of Plock, 50 m. N.N.E. from the cap. Plock, and its chief manufs. are oil, soap, vinegar, and bricks. Pop. 14,000.

Mnemonics, a method or device constructed to assist the memory in difficult matters, e.g. dates in history, mathematical constants, facts in geoof in separation. Thus iron can always graphy, etc. Beyond the utilisation be separated out of a mechanical M. of association of ideas there is no The art was cultivated

Greeks and Romans. long the former (5th

> ice; this con-s, so to speak. ith objects in vhen this was

'full' other houses, streets, districts, had to be associated. The system, so far as it was popular, relied on the rhetorical art so much cultivated. With the revival of learning, the subject again claimed attention, Roger Bacon writing De Arte Memorativa. A new system sprang up, in which letters of the alphabet were used for figures. The typical instance is the sights' of Japan.

Miyask, a tn. of Russia, in the gov.
of Orenburg, on the R. Meyas, 60 m.
W. of Chelyabinsk. Pop. 16,000.
Mizar (§ Urse Maj.), determined
telescopically as double by Riccioli
telescopically as double by Riccioli
These are chosen specialty. e.g. m=3
because of three strokes. To resember 1760 yds.=1 m., 1760 is remember 1760 yds.=1 m., 1760 is represented by i, k, d, s, from which letters some word is invented by

Mnemosyne

Naturally the mere exercise of selecting words, particularly with some ingenious or humorous association, aids Dr. Edw . the rives Ratio a system that has had some vogue. Numbers may similarly be represented by sentences, each word containing the corresponding number of letters. The device of rhyming is used e.g. for the genders of Latin nouns: in weather lore, 'evening red, and morning grey, two sure signs of one fine day. One cannot end without referring to the Latin tag, used remembering syllogisms logic, beginning Barbara celarent, (Jevons), or to the popular devices such as tying a knot in a hand-No system of M. has attained success, unless perhaps in the case of the laborious inventor. may make temporary use of some device, but to carry a system in the head is to double the burden. history of the subject, see Von Aretin, System. Anleitung z. Theorie und Prax.

der Mnemonik, 1810.

Mnemosyne, the Greek goddess of memory, the daughter of Heaven and Earth (Cœlus and Terra) and the mother of the Nine Muses by Zeus.

Moa, a native name for members of the extinct genus (Dinornis) of flightless birds of New Zealand. D. giganteus stood from 10 to 12 ft. high and had its legs enormously developed and was probably capable of running at great speed; the head was very small. Other species inwas very small. Other species included D. struthioides, about the size of an average ostrich, and D. didiformis, which was only about 4 ft. tall. They apparently existed in considerable numbers, and their com-plete extinction is believed to have been of very recent date. The genus was closely related to the genus Epyornis, of which huge remains are found in Madagascar. Moab, a territory to the S. of Israel,

occupying the high plateau to the

E. of the Dead Sea.

Moabites, the inhabitants of the state of Moab, once a powerful enemy of the kingdom of Israel. The M. were closely connected with the Hebrews, and the Moabite language is a dialect of the northern tongue. Some account of the history of Moab is given in the biblical narrative (Exodus, Numbers, etc.). In the reign of David, Moab became subject The Moabite deity was Chemosh.

Monbite Stone, one of the most important monuments of Semitic anti-

being associated with poor memory. | century B.C., to commemorate his Naturally the mere exercise of select- | successes against the Israelites. The upper portion of it was discovered in 1868 by F. A. Klein at Dibon, and since that date sufficient has been recovered to make a reconstruction possible. For a translation of this, see 'Moab,' Hastings' Dictionary of the Bible.

Moallakat, a collection of seven Arabic poems, so called, according to popular tradition, because they were 'suspended' by the Arabs in the Kaaba at Mecca. See Theodor Nöldeke's article in the Encyclopædia Britannica, and an English verse translation by W. S. Blunt (1904).

Moawiya (661-680), see Caliph. Moberly, a city of Missouri, U.S.A., in Randolph co., 59 m. N.W. of Jefferson City. There are lumber and flour mills and foundries.

(1910) 10.923. Mobile, a city and port, co. seat of Mobile co., Alabama, U.S.A., on Mobile Bay. Since 1908 ships draw ing 24 ft. have been able to go up beyond the city, and this accounts for the large maritime trade. Bananas. ores etc., are the staple importa-whilst raw cotton, timber, lumber, cereals, cattle, and oil are freely exported. Pop. (1910) 51,521. Mobilier, Crédit, see Crédit

MOBILIER.

Mobilisation, the setting in motion of the standing army. It consists in carrying out all the necessary arrangements for putting the army on a war footing. As rapidity in striking the first blow may be of vital importance, a complete scheme of M prepared; all orders ready warrants, stores. etc., are kept ready for immediate issue, so that the mere order to mobilise is sufficient. Each unit is inspected fully, and the numbers of reservists required 'called While these are assembling at up.' or other regimental depôt, assigned place, outfit and equipment for war are drawn from stores. Reservists are then equipped and join their unit. M. should be as rapid as possible and not occupy a week. To facilitate rapidity, private firms are under contract for transport and rapid supply of food, clothing, etc. an important matter being the supply of horses. In addition, railway facilities and shipping accommodation, previously arranged in the While the scheme, are secured. While the army about to take the field is thus being prepared, men and corps are called into existence to fill the vacancies due to their departure recruiting is pushed forward, and quity, was erected by Mesha, King of training carried out for future con-Moab, about the middle of the 9th tinuous supply for active service.

equipment of hospitals.

Moccasin, the shoe of the N. American Indian, Originally, an ingenious covering for the foot made all in one piece of untanned skin. Its advantage for the hunter or scout The form and style is obvious. differed with different tribes and individual fancy; it has given place largely to similar articles made in leather and in several pieces.

Moccasin Snake (Ancistrodon contortrix), or Copper Head, a poisonous brown snake, with black and brown markings, growing to about 3 ft. in length. It is found in N. America, where it inhabits marshy districts, feeding on other reptiles, birds, and

small mammals.

Mocha, or Mokha, a fort. seaport and tn., the former cap. of Yemen, Arabia, on the Red Sea, 55 m. N.W. of the Strait of Bab-el-Mandeb. It was formerly important for its trade in coffee, most of which now passes

through Hodeida. Pop. 5000. Mocha, or Mecca, Stones, are agates which the colours are due to The M. stones or visible impurities. The M. stones or moss agates are filled with brown moss-like or dendritic markings distributed throughout the mass. Thev are obtained chiefly in Arabia, and

are used as brooch stones.

Mock Heroic Poetry. From very early times burlesque has been a popular form of literature. The Batrachomyomachia was even attri-buted to Homer himself, and many ancient authors beside Aristophanes delighted in handling trivial themes with mock solemnity. Among the moderns, the absurdities of mediæval romanticists provoked in retort retort Don Quirote in prose, and in verse Dulci's Morgante Maggiore (1481), and Folando's Orlandino (1526), beside other burlesques. Among the best mock-heroics in English are: Chaucer's Sir Thopas, Butler's Hudibras, Pope's Rape of the Lock; the Rehearsal and Critic also contain good specimens.

Mocking-bird, the popular name of a number of birds, with exceptional powers of mimiery, but particularly of Mimus polyglottus, an American bird, allied to the thrushes, which it resembles. It imitates a great resembles.

variety of bird songs.

Orders and contracts are issued for Added luminous circles, concentric, supplementary stores. Special attentiangent, and intersecting are seen, tion is paid to medical stores and the some complete, others represented by arcs only; they often have straight lines or bands of light, sometimes forming a cross. They ar varied and often fantastic. They are very theory, see HALO.

Mocorito, a tn. in Sinaloa state, 60 m. N.N.W. of Culican. Pop. 10,000.

Moctezuma, a tn. in the state of Sonora, Mexico, 100 m. N.E. of Hermosillo. Pop. 9000.

Mod, a Gaelic word said to be derived from the Norse, and equivalent to the A.-S. moot (as moot-hill, a place of mee ing). It was in old times specially connected with the holding of justiciary courts. The name has been revived by an association called An Commun Gaidhealach, formed about twenty years ago to promote the study of the Gaelic language. A M., similar literature, and music. A M., similar to the Welsh Eisteddfod, is held every autumn at some place in Scotland, and prizes are awarded for Gaelic compositions, both literary and musical, recitation, singing, and playing. Highlanders are keen on the preservation of their language and traditions. They have the great advantage of possessing the Bible in Gaelic; also several publications are issued wholly or partly in that language, including An Deo Graine ('The Sunbeam'); a Catholic magazine, Guth na Bliadna ('Voice of the Year');

and a weekly paper called the Alba.

Modder River, a l. b. trib. of the
Vaal, Orange Free State, S. Africa.
It is 186 m. long, and flows into the
Vaal some 30 m. above that river's confluence with the Orange R.

Mode, in music, the grouping of intervals within the space of an octave, and is known also as octave Various Ms, are in scale, or specie. use in different parts of the world; e.g. Hindu music divides an octave into seven intervals, or twenty-two part-intervals; and Mohammedan music divides an octave into seventeen part-intervals, from which it derives nearly twenty different Ms. of seven primary intervals, which differ according to the relative position of the short steps. The Ms. familiar to Western civilisation are derived from the Greek and ecclesiastic diatonic Ms. (see HARMONY); they are therefore known as diatonic, Mock Orange, or Philadelphus respectively major and minor, and coronarius, a hardy shrub (order are in theory the most correct (see Saxifragacere) with large creamy-white flowers, possessing a fragrance white flowers, possessing a fragrance rather like that of orange blossoms. Was between the third and fourth, Moel Creamer Manager Parkets and Saxiff Mock Suns and Moons, or Parhelia and between the seventh and eighth; and Paraselenæ, a development of the other intervals being whole tones; halosofthesun and moon respectively. In the minor, the semitone-intervals are between the second and third, and, grain are the chief products. between the fifth and sixth. Some modern composers, chiefly French and Russian, use a 'tonal' mode, consisting of six whole tones.

Modelling, the art of making repre-'sentations of things in wax, clay, stone, cardboard, etc, more particu-larly applied to the making of a sculptor's model. This is the original design from which the actual sculpture is made. Potter's clay, mixed with finely powdered sandstone to make it work easily, is the material Models of various kinds are used for an infinite variety of purposes, educational not less than artistic. Medalists make use of a model from which the head or figure is cut in the die. These models are modelled in wax on a piece of slate.

Models, Architectural, reproduc-tions on a small scale of the whole or part of a projected building, showing its final form. They are valuable as conveying a clearer idea to an inexperienced person than any number of drawings would do. They are also useful in particularly complicated buildings to show the workmen concerned exactly how certain things

must be done.

Modena: 1. (Ancient Mutina.) A prov. of Italy, in Emilia. Area 1002 sq. m. Pop. (1911) 353,051. 2. The cap. of the above, situated between the Panaro and Secchia, 23 m. N.W. of Bologna. The chief objects of interest are the Romanesque cathedral of St. Geminianus, dating back to the 11th century; the ducal palace; the Albergo Arti, with its priceless library, the Biblioteca Estense, and picture the Biblioteca Estense, and picture gallery, including works of many of the great Italian masters; and the university, founded in 1678. The chief manufs, are silk, hats, glass, and leather. From 1238 the town was under the rule of the family of Este. Its dukes were expelled in 1860, when Modena was incorporated in the kingdom of Italy. Pop. (com.) 70,923. Modena (or Mutina), Tommaso Bari-

sini da, also known as Tommaso da Rabisino (fl. 14th century), a painter of Modena. Nothing is known of his life. His chief works are a 'Madonna' in the chapel of the Castle at Karlstein; another in the gallery at Modena; and a 'Madonna with Saints' in the

Belvedere, Vienna.

Modestinus, Herennius, a famous Roman jurist, a pupil of Ulpian, and one of the councillors of the Emperor Alexander Severus (c. 240). In the Digests of the Justinian Code he is classed as one of the highest legal authorities, and a large number of his dicta are cited.

W.S.W. of Syracuse. Oll, wine, and Modica, a tn. of Sicily,

Pop. 50,000.

Modillion, in architecture, a French word of Latin derivation, signifying the large oblong projections bearing a leaf or scroll on their under side which are arranged beneath the cornice in Corinthian entablature. fine example is found in the Choragic monument of Lysicrates, Athens.

Modjeska, Helena (1844-1909), a Polish actress, was the daughter of a musician, Michael Opido. She first made a reputation for herself in Cracow, and afterwards in Warsaw where she played leading rôles from 1868-76. In the latter year she sailed for California with her second husband, Count Chlapowski. Their attempt to live on a ranch failed, and Madame M. returned to the stage, making a sensation at San Francisco with Adrienne Lecouvreur. She was famous for her highly emotional interpretations of Ophelia, Desdemona, Julici. Beatrice, and other Shakespearian heroines, and acted also in the plays of de Musset, Sardou, Dumas, and Schiller.

Modocs, a N. American tribe of a warlike and aggressive nature, for-merly dwelling on the extreme N.E. frontier of California. Originally they formed one tribe with their northern neighbours, the Klamath, and on neighbours, the Klamath, and on secoding from this tribe, established themselves on Lost R. Most of them perished in the revolt of 1873, and some of the survivors were transported to the Nuapaw reservation in Indian territory, though a few, numbering about 225, were returned to the Klamath reservation, Oregon. Modulation, in music, signifies a change of tonality or key, and is in one of three classes, 'diatonic' (natural), 'chromatic,' or 'enharmonic' (both artificial). On an ordinary keyboard instrument, Ms. are

ary keyboard instrument, Ms. are effected only by means of 'tempera' ment' (q.v.), or approximation of tones in tuning. The term is also used to express graduation as regards

quantity of sound. Modulus, in physics, a constant quantity depending on the proper-ties of matter, when these properties are expressed by means of mathe-matical equations. The chief moduli occur in questions of elasticity. Thus when an elastic string is stretched Hooke's law states that the strain produced is preportional to the extending force. Now if a constant k is introduced which converts this state. ment into an equality, k is called a modulus of elasticity. Expressed symbolically, if Textending force in lbs. per square inch, l=the normal length of the string, and l = extended length, then $T = k \frac{l-1}{l}$. Clearly then.

if $l^1=2l$ then T=k, thus k is equal to the tension in the string when extended to twice its normal length; k in this case of simple extension is called Young's modulus. A body subjected to a force may be altered in shape or in size, or may be altered in both shape and size. When the force merely produces a change in volume the equation stress= $k \times \text{strain}$ is still true, and in this case k is called the modulus of bulk. If the force, or stress as it is most frequently called, produces a change of shape, then k is called the *modulus of rigidity*. The term modulus has some significance in mathematics. In the theory and

the magnitude without regard to sign. This symbol is termed modulus. Modum, a tn. in Norway, 25 m. W. of Christiania, with cobalt mines. Pop.

practice of logarithms it is the number

by which the logarithm of a number to a given base is multiplied in order

to convert it into its logarithm to a

different base. The symbol $|\sqrt{16}|$ means +4, and shows the value of

9000. a. \ Moe es sant

Christiania, and became a clergyman in 1853. He ultimately was appointed bishop of Christiansand (1875), where he died. Moe's first publication was Samling of Same Norske . folk-son

er, in collaboration with Asbjörnsen, he published Norwegian folk-tales, Norske Folke Eventyr. As a poet, Moe is best known by his At Haenge paa Juletraet. His Samlede Skrifter appeared in 2 vols. (1877).

Mochringia, a genus of perennial plants (order Caryophyllaceæ) now

incorporated in the genus Arenaria.

Moelan, a com., Finistère dept.,
France, 7 m. S.W. of Quimpele. Pop.

6320. Möen, a small chalk island off Zealand Is., Denmark, 20 m. long, with an area of 86 sq. m. Its chief

town is Stege. Pop. 14,000.
Moerberke, a tn. in the prov. of E. Flanders, Belgium, 12 m. N.E. of Ghent. Pop. 6000.

Moris Lake, 35 m. long and 4½ m. broad, situated in the prov. of Fayum, Central Egypt. It is now known as Birket-el-Karun.

Moeritherium, an extinct animal found in the Middle Eocene beds of Egypt, not larger than a tapir, and Bengalese districts having their own undoubtedly the earlie

covered of the probosc mammals. This, with

discovered in Egypt, affords a most | Mogador, or Suera, the chief scaport important link between existing ele- of Morocco on the Atlantic, and next

as properly belonging to a distinct order, and other ungulates. The apparent absence of the link for some time puzzled palmontologists. Without the intermediate links, too, the relationship of the M. to existing elephants would hardly be realised. There was no lengthening of the chin. and the muzzle may be assumed to have been of normal proportions. The six pairs of cheek teeth were all in use at once, and the series of teeth in the front was comparatively full. second pair of incisors in each jaw exhibit an enlargement which is obviously a stage from which the four tusked Mastodons (Tetrahelodon), with a snout-like muzzle instead of a trunk, evolved.

Moero, or Mweru, Lake, 76 m. long and 25 m. broad, was discovered by David Livingstone in 1867, and Sharpe further explored it in 1890; it lies 90 m. S.W. of Lake Tan-ganyika in Central Africa.

Mosia, an ancient Roman provoccupying the territory S. of the Danube, and corresponding to Bulgaria and Servia. It was first inhabited by Thracians, then by Celts. and was conquered by the Romans in 29 B.C. The Emperor Domitian divided it into two provinces, Masia Superior and Mesia Inferior.

Mœso-Goths, the name given to certain Goths who settled in Lower Mæsia, at the mouth of the Danube, in the 3rd and 5th centuries. were converted to Christianity by Ulfilas, who translated the Bible for

them.

Moffat, a police burgh, burgh of barony (1635), and par. of Dumfriesshire, Scotland, on the Annan, 20 m. N.E. of Dumfries. It is noted as a health resort. Pop. (1911) 2702.

Moffat, Robert (1795-1883), one of the pioneers of missionary work in Africa, and father-in-law of David Livingstone, was a native of Haddingtonshire. In 1814 he offered his services to the London Missionary Society, and in 1816 he was sent out to S. Africa, where he worked with great success in Namaqua Land, converting the chief, Afrikaner. Afterwards, having married (1819), he and his wife spent nearly fifty years Griquas mainly among the Bechuanas. His Missionary Labours and Scenes in South Africa is a most He died near interesting book. Tunbridge Wells. book.

Mofussil, an Indian namefor certain justice), from which peal to the higher

phants, which some authorities regard in importance to the city of Morocco.

Mogila, Peter (c. 1596 - 1647), a Russian prelate, belonging to a Wal-lachian family of rank. He was a metropolitan of Kiev from 1632 until his death. He drew up a Catechism (1645), and the famous Confession of Faith of the Orthodor Greek Church in the East (1643), accepted by the synod

of Jerusalem in 1672. of Jerusalem in 1672.
Mogilev, or Mohilev: 1. A gov. of European Russia, in the div. of W. Russia, hounded N. by Vitebsk, E. and S. by Smolensk and Tchernigov, and W. by Minsk. The chief river is the Dnieper, which enters M. in the N.E., runs W. as far as Orscha, and then flows S. to its innetion with the then flows S. to its junction with the Beresina. The principal occupations are agriculture and cattle breeding. Corn, rye, barley, and oats are grown. The chief towns are Mogiley, Chausy, Orscha, etc. Area 18,700 sq. m. Pop. 2,214,900. 2. The cap. of the above gov., stands on the Dnieper, 120 m. S.W. of Smolensk. It has a cathedral founded in 1780. There are tanneries and ironware factories. Pop. 53,000.

Mogliano, a com. in the prov. of Treviso, Italy, 7 m. S. of the tn. of Treviso. Pop. 7600.

Mogok, the chief vil. of the Ruby Mines dist. in Upper Burma, 70 m. N.N.E. of Mandalay. Pop. 8000. Moguer, an old Moorish city and

port in the prov. of Huelva, Spain, on the Rio Tinto. Brandy and wine

are produced. Pop. 8500.

Mogul, Moghal, or Mughal, the Arabic and Persian forms of Mongol, is usually applied to the Mohammedan empire in India, founded by Baber, a descendant of Tamerlane, in 1526. The emperors of Delhi were usually styled 'the Great Moguls.' Their rule came to an end after the Indian Mutiny in 1858, the last of the line dying in imprisonment at Rangoon in 1862.

Mohacs, a tn. in the prov. of Baranya, Hungary, on the Danube, 25 m. E.S.E. of Fünf Kirchen. Pop.

16.000.

Mohair, see Wook

Mohammed, or Mahomet (properly Muhammed, or Mahomet (properly Muhammad, 'the praised' or 'the desired'), also Mohammad (c. 571-632; 12 Rabia, A.H. 11), the founder of Mohammedanism, or the faith of Jelon. He properly the property of the p named his religious Islam. system Islam or Hanif, apparently devoted. His father, Abdallah, came of good Arab stock, and was a

Its exports include gums, wool, olive one year, he was adopted by his oil, and skins. Pop. 24,000. uncle, Abu Talib. The child was an epileptic, and was of a melancholy, thoughtful disposition. Most of his early life was passed in tending flocks of sheep and herds of camels; he had little or no education, and as a lad could neither write nor read. His grandfather had been a man of considerable standing, and had taken charge of the Temple and the Holy Well in Mecca, so that the boy must have seen and known many pilgrims and holy people. His uncle was a poor man, and until twenty-six years of age M. worked hard for his living like any other young Arab. In his 26th year a wealthy widow, named Khadija, fell in love with him and married him; she was fifteen years older than M., and appears to have been a woman of great good sense and patience, with a heart-whole belief in her young husband that materially helped him in his sub-sequent career. As a young man he naturally worshipped at the Kaaba, the great sanctuary of Mecca, originally a local sanctuary of the Koreish tribe. The Kaaba contained the image of Hobal, their ribal god, also several other delties belonging to other tribes, and more sacred than all, it held the famous 'hlack stone' of Mecca (q.v.), 6 to 7 in. square, built into the walls of the Kaaba, traditionally held to be attended. a stone from Paradise brought down M.'s first by the angel Gabriel. battle took place when he was quite a young man, in a blood-feud between his tribe and the tribe of Hawazin, in which he did not distinguish himself or show any of his later military spirit. After his marriage with Khadija he seems to have been a partner in a produce-shop. 35th year the Kaaba wrecked by a great storm. No person could be found who would venture to replace the sacred stone in the wrecked shrine, and it was finally decided that the first man who entered the court by chance should be the chosen one. To M. who entered the court by chance should be the chosen one. To M. fell the honour. All his life the prophet had been interested in theology, and he had been slowly forming his new belief in one God, but as yet he had not proclaimed himself a prophet. His first revenity of the him in a caye in the control of the court lations came to him in a cave in Mount Hira, where he had retired with his wife for meditation. Here he appears to have had visions and religious eestasies. Khadlja, at first alarmed about his health, later, when he declared the angel Gabriel had appeared and spoken with him, to the health of the health had been reported. member of the tribe of Korcish, religious cestasies. Khadija, at first M. was a posthumous child, and his mother only lived till his seventh year; on her death his grandfather, Abd-al-Muttalib, took charge of him, at once believed him to be a prophet, and on his death at the end of only! He now put his new doctrine into the

God.' For the first few years his faithful wife, his friend Abu Bekr. and his adopted slave Zaid, worked in secret, converting only a few. Meanwhile the revelations became more frequent, and during his trances he uttered messages which were carefully remembered and written down. They varied in subject, from history and magic to religious religious magic teaching, and formed the beginning of the Koran (q.v.). His friends were aware that as a boy he was subject to fits, but they believed these later seizures to be inspirations from God. His attitude to Jews and Christians at this period was friendly and conciliatory. The first religious meetings were held on Mount Safa, where M. boldly proclaimed himself to be the prophet of Arabia. From here he preached his doctrine to the ne preached his doctrine to the people of Mecca, denouncing idolatry, preaching heaven and hell, and declaring Allah to be the only God. His followers were named Muslim (Moslems), which, as apparently meaning 'traitor,' 'surrenderers,' remains difficult to understand. The furn of the tribe of Koneish with

The fury of the tribe of Koreish, who had charge of the holy shrine, merely added energy and fervour to his preachings, and he threatened the non-believers with awful tortures in hell, and petrified Mecca with his and in one year his army grew from furious eloquence. He established 10,000 to 30,000 men. The subhimself in the house of a rich convert in the centre of the town, and held frequent meetings. The Moslems now began to be crucily especially that of the 'Day of persecuted by the Meccans, and the prophet was blockaded in his own house, for though persons might be starved to death, no blood must be shed in the sacred city. After a revelation that the goddesses of Mecca existed as well as Allah, the siege was raised, but once free M. been that of a middle-sized, heavily-asserted that the revelation came non-believers with awful tortures in shed in the sacred city. After a revelation that the goddesses of Mecca existed as well as Allah, the siege was raised, but once free M. asserted that the revelation came from the Devil, and the trouble was renewed. Khadija died about this time, and also Abu Talib, and his strongest influence for good and his protectors were thus removed. The prophet was forced to flee from the wrath of the Meccans to Yathrib, This is afterwards called Medina. the Hijra (Hegira), Sept. 22, 622 A.D., from which Moslem chronology dates as A.H. I. M. bound his followers to himself by the strongest followers to intermarry. He contracted several marriages himself, one wife being Ayesha, aged 9, the infant daughter of Abu Bekr.

famous formula, 'There is no God but ceremonial washing, praying five God, and Mohammed is the apostle of times a day with the face turned God.' For the first few years his towards Mecca, abstinence from the drinking of wine, and the abolition of infanticide. Prayers were formerly directed to Jerusalem, until the prophet found that no compromise could be made with the Jews. He also established the call to prayers. maezzin, and Friday as the sacred day maczin, and Friday as the sacred day of the week. He enforced the 'fast of Ramadan,' a period when no food may be eaten from sunrise to sunset. The prophet next began his series of campaigns, the first successfully directed against the Meccan caravans. The second resulted in the victors of Bady (290 d. r.) The prophete vans. The second resulted in the vic-tory of Badr (629 A.D.). The prophet's plundering expeditions added great wealth to Medina, while his army rapidly grew strong, and in A.H. 8 (630 A.D.) he marched on Mecca with 10,000 well-disciplined men, easily conquering the most sacred city of Arabia. The next year the great pilgrimage was managed by the Moslems, and very quickly Mecca itself was a Moslem town. M. no longer showed mercy; all un-believers were to be slain, his soldiers became fierce religious zealots, who died cheerfully for the faith and the promise of Paradise held out by the prophet. The conquest of Mecca prophet. The conquest of Mecca brought thousands of converts to the white standard of the prophet,

built man with a large head and big thick hands and feet, with long hair and dense beard; his eyes were said to be tinged with red. He left no son to succeed him. After his death the sayings of his revelations were collected, and being bound together formed the Koran. These sayings were scratched on bones, written on palm leaves, and some on parchment, and there could at the time be no proof that some were not spurious. M. had given his world a new religion, and a new code of laws, many of which he was the first to violate, though always excused by a special revelation. For infant daughter of Abu Bekr.

The first Mohammedan mosque far-reaching influence, see Mohamwas built at Median, and an arranged MEDANISM, and for the succession code of laws established, dealing with lafter his death see CALIPHATE; see

also Shutes and Sunnites. orities: A. Sprenger, Das Leben und ornies: A. Sprenger, Das Leben und die Lehre des Mohammad. 1861-65; Sir W. Muir, Life of Mahomet, 1856-61 (4 vols., and abridgment, 1 vol.); D. S. Margoliouth, Mohammed and the Rise of Islam, 1905; Syed Ameer Ali. The Spirit of Islam, 1896.

Mohammed II. (1430-81), Sultan of Tunkey, called the Concept.

Turkey, called 'the Conqueror,' succeeded his father, Amurath II., in 1451. Taking Constantinople in 1453, he next fortified the Dardanelles, conquered Greece and most of the Balkan territories, while at sea he became the terror of Southern Europe. He died

in an expedition against Persia.

Mohammed V. (b. 1844), the present Sultan of Turkey. When the Turkish Revolution occurred in 1909 Turksh Revolution occurred in 1909 at the instigation of the 'Young Turks' committee, the army under Shevket Pasha (assassinated 1913) took possession of Constantinople, deposed and exiled the Sultan Abdul Hamid, and replaced him by his brother, Mohammed Reshid.

Mohammedanism, the faith of Islam, Mohammedanism, the latting islam, the religion preached by the prophet Mohammed. The sacred book of the faith is the Koran, compiled after the death of the prophet, who, as far as we know, wrote nothing himself. The original creed was founded on Mohammed's belief in the case God a loving Father who rules. founded on Mohammed's belief in the cousin of Mohammed, and husband of one God, a loving Father who rules Fatima, the prophet's daughter, the universe with mercy; later, God was transformed into a hard, unforgiving despot who demanded the eternal destruction of all unbelievers. The creed is simple, believers. The creed is simple, the Shittes; the former refused the Mohammed is the apostle of God.'

There is no God but God, and Mohammed is the apostle of God.'
However vile be a Mohammedan husband of Mohammed, and hus may be an unbeliever he must be damned for ever. The teaching of the faith about women is a grave wrong in so great a faith; it destroys at once the sanctity of marriage and of motherhood and the purity of the man's home. Mohammed lifted Arabia from its ignorant worship of degraded gods, and he enforced strict laws of prayer, abstinence from wine, fasting, and cleanliness. The Koran embraces the whole teaching of Islam; the four principal laws regarding the individual are: first, worship, i.e. prayers to Allah five times a day, preferably in a mosque, but otherwise with the face turned to Mecca; secondly, fasting during the month of Ramadan from sunrise to sunset, including abstinence from smoking as well as food and drink (this month may occur at any season of the year, as the ceremonial year depends on

Auth- to Mecca, and perhaps once to en und Medina; fourth, the giving of alms for the support of the faithful poor. Women are not compelled strictly to observe these laws; those who can are naturally expected to fulfil their duty, but fasts and pilgrimages are not asked of them unless health and circumstances make it possible. Women pray in the mosques apart from the men, closely veiled as the Mohammedan law compels, but they may not lead the prayer, nor is it considered desirable that they should often offer public prayer, Beside the Koran three other books contain foundations of the faith of Islam. The Sunnat, or traditional law, The Ijma, and The Kias. These four comprise the whole religion of the Moslem. The fact of the prophet being in possession of Mecca, the Arabian sanctuary, and the promise of a paradise which fulfilled all the naterial desires of the Arab, aided largely to increase the mass of converts. The prophet left no son, and after his death Abu Bekr succeeded as caliph (successor), or religious head, of the Mohammedan empire. Each succeeding caliph was to be a direct lineal descendant of the prophet (see Califul). In 654 the third caliph was murdered, and Ali, cousin of Mohammed, and husband of his son, took his place and was poisoned by his wife, then Hosain, his youngest brother, succeeded him, and he was slain at Kerbela and buried there; the place has since become a second Mecca to the Shiites. Only one of Hosain's massacre. survived the children named Zayn-el-Abidin, and through him the Orthodox Mussulman Church claims the divine succession. The Shiites flourish chiefly in Persia.
The Sunnites and the Shiites are often opposed to one another, both in points of law and in the sanctity of their leaders. At the death of the prophet, the Mohammedan empire consisted of Arabia only, but close on a hundred years afterwards the full full middle from the North Mohammed the Moham the faithful ruled from the Indus to the Pyrenees, compelling all subjects to accept the faith or die. The grandfather of Charlemagne finally twelve lunations unconnected with drove them from France (732 A.D.) the seasons); thirdly, pilgrimage, to Egypt and Moslem Asia united and travel once at least during a lifetime placed their capital at Bagdad.

The Turks (Asiatic people from Turkestan) formed the bodyguard of the caliphs of Bagdad, and becoming stronger than their leaders, conquered Asia Minor in 1299; it was then the title of sultan ('victorious') became used. The Turks invaded Europe, 1355, and seized Constantinople, which has remained their capital until to-day. Through the 11th and 12th centuries the Mohammedans gradually spread into India and crossed the Punjub into the Deccan, where the prophet's creed remains one of the principal faiths of that part of the country to-day. From this brief survey it can be seen how far and wide can be seen how far and wide the teaching of the prophet has been carried; it has borne its fierce followers to win empires, but has not taught them to govern them. The consensus of Western opinion is that the laws of this great faith militate against progress, and destroy the main road to real civilisation: recognises slavery, and degrades its mothers and daughters, but there is much simple truth and wonderful strength in the creed.

Mohammera, Mohammerah, Muhamrah, a tn. in the prov. Khuzistan, Persia, between the Euphrates (Shat-el-Arab) and Karun rivs. It exports wheat, wool, horses, and opium. The town has increased in importance since the opening of the Karun Canal in 1889. Pop. 10,000.

Moharek, a tn. on a small island of the Bahrein group, a British posses-sion, Persian Gulf, off the N. coast of Samak Is. Pop. 25,000. Moharram, the first mouth of the

Mohammedan year, which, consisting of twelve lunar months, only contains 354 days, to which, in what are called intercalary years, one more is added. Thus their New Year's Day falls continually eleven days earlier than in

the preceding year.

Mohave, an American tribe of the Yuman linguistic stock. They inhabit both sides of the Lower and Middle Colorado R., and number 4000.

Mohave Desert, an elevated sandy plateau in San Bernardino co., California, U.S.A.

Mohawk, a trib. of the Hudson R. in New York, U.S.A.; it rises in the co. of Oneida, and joins the Hudson a few

miles above Troy. Length, 160 m.
Mohawks, a tribe of American
Indians which belonged to the Con-Their federacy of the Five Nations. territory reached from the St. Lawrence down to the Oats Rills. After the War of Independence they removed to Canada, where they were assigned a location on the Grand R. They number about 1600.

Mohawks, or Mohocks, a lawless züge der

band who infested London about 1711 and 1712. Their practice was to parade the streets of London at night, and under cover of the dark-ness to commit many outrages upon harmless citizens.

Mohicans (Wolf Indians), a branch of the Algonquin stock, who originally inhabited the Hudson Valley, but were driven eastward by the Mohawks. They sided with the colonists during the revolutionary war, and are now practically extinct.

Mohl, Hugo von (1805-72), a German botanist, brother of Julius von Mohl, was born at Stuttgart in Würtemberg. He studied at Tübingen, where he became professor

of botany (1835). His principal work is Grundzüge der Andomie und Physiologie der Veyetablishen Zelle, 1851.

Mohl, Julius von (1800-76), a German Orientalist, born at Stuttgart in Würtemberg. He was professor of Oriental literature Tübingen (1826-33), but lived in Paris, where he became professor of Persian at the Collège de Franco. He edited Firdau-i's Shāh Nāmch (1838-68), and made a French translation, published posthumously; Le Livre des Pois traduit et commenté, 1876-78. His wife published some of his papers under the title Vingtsept Ans d'Histoire des E Orientales (2 vols.), 1879-80. Mrs. Simpson's Letters and Recollections of Julius and Mary M., 1887. Möhler, Johann Adam (1796-1838),

a German Roman Catholic theologian, born at Ingersheim in Würtemberg. He received priest's orders in 1819, and began to lecture on ecclesiastical law and history at Tübingen in 1823. Five years later he was appointed professor ordinary of theology, and in 1835 he removed to the University of Munich. He principally remembered as the author of Symbolik. His miscellaneous works were edited by Dr. Döllinger (2 vols.), 1839-40. Life by Wörner, 1866.

Mohmand, a powerful Pathan tribe inhabiting the wild mountainous dist. of the N.W. frontier prov. Once hostile, they are now busily engaged in trade in the Peshawar valley.

Mohn, Henrik (b. 1834), a Norwegian meteorologist, born at Bergen. He was educated at Christiania United

versity, where he became director of the meteorological institute (1866). He was in command of a scientific expedition into the Norwegian Sea in 1876-78, and a member of the Polar Commiss: netic and

1882. H

North Polar Expedition of 1893 - 96 (vol. vi.), 1905.

Mohun, Charles, fifth Baron (c.1675-1712), son of the fourth Lord M. by Lady Philippa Annesley, daughter of the first Earl Anglesey. A notorious duellist of so violent a temperament that he was twice charged with murder but was acquitted each time. His last duel was with the Duke of Hamilton over a quarrel regarding the estates hequeathed to the duke by Charles, second Earl of Macclesfield. Both combatants lost their lives, M. by the hand of his adversary and the duke by the treachery of M.'s second, General Macartney. Having no issue the barony expired with his death. See Burke's Extinct Baronetics.

(Persian muhr, Mohur seal ring), a gold coin, originally Persian, used in India from the 16th It is now the official name of the chief gold coin of British India, weighing 180 grs. troy, and containing 165 grs. of pure gold. Its value Its value is about 15 silver rupees (57.21, 36.73 francs). The Bengal mohur is worth about 33s. (42.32 francs).
Moidore, Moyodore, Moedor, or

Lisbonine, a former gold coin of Portugal (moeda d'ouro, gold coin) worth 4800 reis: current in England in the early 18th century. Later it was the name used for 27s., its approximate value.

Moir, David Macbeth (1798-1851), Scottish physician and writer. He early contributed to Constable's and Blackwood's magazines, often under the pseudonym of A (Delta).

His works include, besides poems, the Autoliography of Mansie Wauch, 1828 (new ed., 1895), and Outlines of the Ancient History of Medicine, 1831. Moiræ, or Parcæ, Greek names r the three goddesses of Fate, for the three represented by He Hesiod thé as daughters of Nox and Erebus. Clotho, the youngest, presides over mortals at the moment of their birth. She is represented with a distaff in her hand, and is robed like in Lachesis variegated raiment.

Lachesis is bespangled with stars,

Atropos, the eldest and most inexor-

short the thread of man's existence,

irrespective of age, quality, or sex. Some poets spoke of them as all-powerful even over Zeus. Moire (Fr. moire, watered silk), now used exclusively to denote watered or clouded silk, though the actual process of calendering can be

of Scientific Results of the Norwegian | merly the term was interchangeable with mohair, a fine watered dress material made from the white silky hair of the Angora goat ('mohair' from Arabic moukhayar). The calendering process, whatever the particular fabric used, consists in wetting and folding it in a particular manner and then subjecting it to hydraulic pressure of about 100 tons between evlinders or rollers. This removes the nap, makes the material smooth, even, and glossy, and imparts to it a beautiful and permanent ways appearance.

Mols, a name given by the Annamites to the uncivilised peoples dwelling in the Indo-Chinese moun-tains. They are called 'Khâs' by the Siamese and 'Penongs' by the Cambodians. They are a very short race, gentle, and rather timid. They carry on agriculture by primitive methods, can work iron, and weave

silk, cotton, and threads.

Moisie, a riv. (250 m. long) in
Saguenay co., Quebec, Canada, runs
S., entering the Gulf of St. Lawrence
about 66° W. long.

Moissac, a tn. in the depart. of Tarn-et-Garonne, France, on the Tarn, 15 m. W.N.W. of Montauban. Pop. 8200.

(1852-1907), a Moissan, Henri French chemist, born at Paris. He became a doctor of science in 1885, professor of toxicology at the Ecole de Pharmacie in 1886, and professor at the Sorbonno in 1900. He is celebrated for his valuable experiments with fluorine, being the first to isolate and liquely same. He also made some interesting experiments in diamonds, facturing the wise simplifi

acetylene gas silicides, and tions include

Reproduction du diamant: Carbure de Calcium : Le Four électrique ; and articles on manganese, iron, chrome,

Moitte, Jean Guillaume (c. 1746-1810), a French sculptor. His statue of the 'Sacrificateur' won his election to the Academic des Beaux-Arts (1783). He executed the fine bas-relief of the front of the Pan-théon, 'La France entourée des Vertus . . ,' a bas-relief for the Laxembourg vestibule, and a bronze and always holds a spindle, to spin the thread of life and plot futurity. able of all, is garbed in black, and is continually employed in cutting equestrian statue of Bonaparte. See Quatremero de Quincy's 'Eloge' in the Moniteur, 1810.

Moji, a scaport tn. of Japan, on Kiushiu Is., facing Shimonoscki. Has coal mines. Pop. 55,682.

Mojos, Mohos, or Moxos, a tribe of S. American Indians who dwell about applied to any material, whether S. American Indians who dwell about woollen and silk stuffs or linen. For the Mamore and the upper reaches of the Madeira R. in Northern Bolivia. They were once cannibalistic, polyand indifferent gamous, to both of child life sanctity marriage. They number about 30,000.

Mokaddasi, Shams ed - Din al (Mukaddasi, from Jerusalem) (b. 946 A.D.), an Arab (Mohammedan) geo-He travelled widely, and grapher. wrote an account of various countries under Moslem rule. See 'Descriptio Imperii Moslemici' (De Goeje's ed. in Bibl. Geog. Arab., iii., 1877); in Bibl. Geog. Arab., iii., 1877); Syria and Palestine (Le Strange's ed., Palestine Pilgrims' Text Society, iii., See also Kremer, Kulturgeschichte des Orients, ii., 1877; Le Strange, Palestine under Moslems, 1890.

Mokanna, Al (the veiled one), see AL-HARIM-IBN-OTTO.

Mokha, see Mocha.

Mokpo, a treaty port near the S.W. extremity of Korea, opened in 1897.

Moksha, a riv. of Russia, flowing through the govs. of Penza and Tambov, a l. b. trib. of the Oka. Length 350 m.

Mokshani, or Mokshansk, a tn. in the gov. of Penza, Central Russia, on the Moksha R. It has rope, potash, and woollen industries. Pop.

10,000.

Mola, Giambattista (1620-61),painter and etcher of Italian origin, born at Besançon. He excelled as a landscape painter, and had a bold and vigorous style. His etchings include : Judith with the Head of Holofernes 'Atalanta,' etc., and he painted 'A Landscape with the History of Hagar and Ishmael.' See Lanzi, History of Painting in Italy.

Mola, Pierrefrancesco (c. 1620-66), an Italian painter, born at Coldre, Italy. He studied under Francesco Albani at Rome, and then went to Venice for a time. He excelled chiefly as a landscape painter, but also painted several historical pictures. Among his masterpieces are: 'St. John in the Desert,' 'History of 'St. John in the Desert,' 'History of Joseph,' Hero and Leander,' Dido, Landscape with the Temptation of Christ,' etc.

Mola di Bari, a seaport of Italy on the Adriatic, 12 m. S.E. of Bari. Its chief products are oil, grain, and wine. Pop. 15,000. Mola di Gaeta, original name of

Formia (q.v.).

Molasses, or Treacle, a by-product of sugar manufacture. Molasses from cane sugar is utilised as human food, molasses from beet sugar is bitter and unpleasantly flavoured, though much is used in Germany for mixing with dry food for live stock as a substitute In France molasses is emfor roots. ployed in the production of alcohol.

Molassians, see EPIRUS.

Molbech, Christian (1783-1857), a philologist, historian, Danish bibliographer, born at Sorö. He was professor of history and literature at the Copenhagen University (1823-43). He published the literary journal Athene (1814-17) and edited the Nordisk Tidskrift (1840). His chief works are: Historie om Dithmarskevr Works are: Historie om Dulmarsker Krigen, 1813; Kong Erik Plogpen-nings Historie, 1821; Dansk Ordbog, 1833; Dansk Dialekt-Lexikon, 1835-41; Danish Glossary, 1857, 1866; Idea of a Scandinavian Union, 1857.

See Erslew, Forfatter-Lexicon.
Molbech, Christian Knud Frederik
(1821-88), a Danish poet and playwright, son of the preceding, born at Copenhagen. His chief poems are: Digtninger, 1845; Fra Danäidernes Kar, 1873; and Efterladte Digte, Among his plays Ambrosius (1878) and Dante are the best. also produced an excellent transla-

tion of the Divina Commedia.

Mold, a market tn. of Flintshire, Wales. 12 m. S.W. of Chester, with limestone quarries and coal and lead mines near.

Moldau, a riv. of Bohemia, Austria, rises in the Böhmerwald Mts., flows past Prague, and after a course of 270 m. joins the Elbe near Melnik.

Moldavia, the N.E. portion οf Roumania, formerly one of Danubian principalities. See Rou-

MANIA. Mole, or Talpa europæa, a common British burrowing mammal, about 6 in. in length, with a cylindrical body, long pointed muzzle, short tail, broad powerful five-clawed fore limbs, and narrow hind limbs. long, narrow hind limbs. The fur is soft and velvety, and normally The fur greyish black, but frequently of other Although one of the Incolours. sectivora, the M.'s food is chiefly earth worms, but insects are eaten in large numbers, and recently collected evidence goes to show that a proportion of vegetation forms part of the dietary. Ms. are very voracious, and are unable to live more than a few hours without food. The nest, with its system of galleries and ap-proaches, is a wonderful work; it is made usually under banks or among the roots of trees. The M. hills are formed as the animal excavates, and on lawns and pastures they cause inconvenience. disfigurement and but the soil is always rich, for the animal avoids poor land where food is likely to be scarce. Ms. are usually caught by means of spring traps or by nooses fixed on bent twigs and placed in the runs.

Molé, Mathieu (1584-1656), a noted French magistrate. He became attorney-general in 1614, and was appointed by Richelieu first president of the Parlement (1641-53), becom- tion of gases. It is in chemistry where ing keeper of the Great Seal (1651). His Mémoircs were published by the Société de l'Histoire de France (1855). See Vic by Molé (1809), De Barante (1859); De Pansey, Eloge, 1775.

Mole, St. Nicholas, a coast tn. of aiti, on the N.W. peninsula. Columbus landed here in 1492.

Molech, or Moloch, originally Melek was intentionally pointed in the Hebrew ou the analogy of 'Cosheth' in order to discredit it. The title is found widely spread throughout the Semitic races as a divine name, but in the O.T. especially connected with the religion of Ammon, e.g. 1 Kings xii. 7, 'the abomination of the children of Ammon.' The evidence, indeed, seems to show that Molech, or Milcoin (1 Kings xi. 5: 2 Kings xxiii. 13, etc.), was the special tribal god of the Ammonites. standing to them in the same relation as did Chemosh to the Moabites, The particular rite connected with worship was the sacrifice of children by fire, and it is certain that this practice, though vigorously opposed by the prophets, was also introduced into the worship of Jehovah during the last period of the kingdom (Is. lvii. 5; Jer. xix. 5). Solomon is said to have built a sanctuary to Molech at Topheth.

Mole Cricket, an orthopterous insect, highly cluborated for a burrowing life in the ground where, like the mole, it lives on worms and insects. It is from 1\(\frac{1}{2}\) in. to 2 in. long, dark brown, and covered with soft hair. The tibice of the forelegs are flattened and terminated much like the fore- gases. In the case of liquids, other legs of the mole. The M. C. r power of flight, though it a above ground at night The

white, and mature very slowly, Molecule, denotes in chemistry the smallest particle of a substance exhibiting the chemical properties of the substance; any further division completely alters its properties, so that it becomes another substance or substances. Ms. arcultra-microscopic and investigated by the methods of physics and chemistry. It was the study of gases in which Ms. are most free to move that gave rise

> the laws of Ms.

of liquids and solids: in the latter case we can hardly be sure of moleindirect cular structure, except when the solid is fused, volatilised, or dissolved. A further study by chemists reveals to the molecular theory. The physical the structure or architecture of the to all mees are Boyle's, M. itself. Groups of the constituents d Avogadro's of Ms. may be removed, and tend to indicating possibly Based or of gases its united to forces acting form Ms. of different substances, yet. Meyer, Kin- in the same proportion, the Ms. not L. Meyer, Kin-The further only presenting different properties but splitting into different groups of nature of Ms. proceeds in general in the direction of atoms in the course of chemical rediffusion, viscosity, and internal friedactions. This, with the aid of the

success has been most attained. Analysis determines the elements of which any substance is composed, and which must be present in the M. All Ms. are found to be similarly constituted, and the proportions of elements are generally easily deter-Thus the chemical formula for acetic acid is C2H4O2, since the hydrogen can be removed or replaced in one, two, or three portions, in various reactions; similarly the oxygen in one or two; and the carbon divisible by two. The M., therefore, is truly represented by the formula or some multiple of it. The chemist may then proceed by actual weights, and assign proportional molecular weights to substances. These determinations depend on the law of Avogadro that equal volumes of gases contain an equal number of Ms., an hypothesis steadily confirmed in the kinetic theory. The chemist adopts the simple formula, or the simplest multiple which allows his reactions. In a very large number of cases, the methods of physics corroborate the simple chemical formula. The volume which 1.g. of a true gas of molecular weight 1 would occupy under p mm. pressure of mercury and t^2 C. temperature is represented by the $22.33 \times 760/p \times (273+t)/273$ formula litres, according to the laws of Boyle and Charles. If the chemist has determined the molecular weight m of a gas, m grams should occupy this volume, and this is found to be true within the limits of error of experiment. So far the method is limited to

be applied to substances in dilute solution; results may thus be ob-tained from consideration of osmotic pressure, and its effect on vapour pressure, boiling and freezing point of the solvent. Very little progress has, however, been made in the case

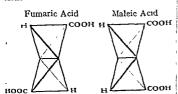
> cture of those 'I. Substances

render the method of uncertain. Van t' Hoff

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Van t' Hoff examined these structures and propounded geometrical theories. For example, fumaric and maleic acid are both represented by—

Wislicenus explains this difference in properties by geometrical formulæ thus-



The actual size of a molecule is of no interest beside its physical structure and chemical properties. It was investigated by Lord Kelvin who expressed it by stating that if a drop of water were magnified to the size of the earth, its Ms. would be some where in size between that of a small shot and a cricket ball.

cut-flower nurseries surround

town. Pop. 64,000.

Mole-rat (Spalax or Aspalax, genus of rodent quadrupeds of the family Muridæ, having teeth almost like those of rats, but in many re-

theory of Valency (q.v.), enables him to picture the probable architecture of the Ms. These and allied cases occur under the form of Isomerism, Polymerism, and Metamerism (q.v.). For example, the M. for caffeine is represented thus: closed his materialism in the formula 'Without matter no force; without force no matter.' His views were developed in Kreislauf des Lebens, 1852. Among his numerous scientific treatises was a Natural History of Man and Animals, 1855.

Molesey, East and West, two adjacent pars. in the co. of Surrey, on the r. b. of the Thames. United population (1911) 6500.

Moleskin, a kind of silk fabric having a thick soft shag similar to the fur of a mole; also a kind of shaggy cotton fabric which is used for workmen's trousers by reason of its good

wearing qualities.
Molesworth, Mrs. (Mary Louisa Stewart) (b. 1839), a Scottish novelist, born in Rotterdam. Under the pseudonym of ' Ennis Graham ' she wrote She was Young and He was Old, and Cicely, and other of her novels were Hathercourt Rectory, and Neighbours. Among her numerous pleasant and pure minded children's stories are Carrots, Cuckoo Clock, The House that Grew, and The Grim House. She has also retold the lives of the saints for the young.

Molesworth, Sir Guilford Lindsay (b. 1828), an English engineer, born at Milbrook, Hants. After various

Railways in India, A Pocket-Book of Engineering Formulæ, and treatises on economic subjects.

Molesworth, Sir William (1810-55), an English politician, born in London. of He entered parliament in 1832. Exnecept during the years 1841-43, he retained a seat all his life and was one
of the most prominent 'philosophic
of radicals.' For many years he con-Molenbeek-Saint-Jean, a tn. of radicals.' For many years he con-Brabant, Belgium, forming a N.W. suburb of Brussels. Its chief indus-tries are carpets, margarine, soap, than any other who exposed the evils and textiles. Market-gardens

rich upholsterer, who was also valet de | not only the manager of the troupe, chambre du roi, avec survivance—thus M. was born king's valet de chambre presumptive. His father gave him the education of a gentleman, first at the Collège de Clermont, where he was the school-fellow of the Prince de Conti. and then, as one of a group of gentlemen's sons, he followed a course of instruction under the celebrated philosopher and astronomer. sendi. From 1645-47 he studied law at the University of Orléans. But the career of lawyer was not congenial to Jean Poquelin, while the theatre attracted him irresistibly. As a Parisian he must often have witnessed the popular burlesques and



MOLIÈRE

farces of Turlupin, Gros-Guillaume, Gaultier-Garguille, the Goguelins, the Tabarins, and the Rodomonts on the Pont Neuf, in the Place Dauphine, and at the fairs, as well as the farces which had begun to be much more popular than pastorals and tragedies -performed at the Hotel de Bourgogne. For people had come to wish to be made to laugh for their money and Corneille was losing power. Poquelin got togother a little troupe, founded the Illustre Théatre, and took the name of Molière. After a few power. months of struggle and want in Paris, the company ended in bankruptcy. Undaunted, M. and his troupe left Paris for the provinces, and for the next twelve or thirteen years they went from town to town playing. M.

and an actor, but the adapter of the plays they represented and, soon, an author himself. At first he wrote farces after the orthodox Italian type. with its stock characters. these he afterwards re-cast and developed into real comedies as, for instance, Le Fagolier, which became Le Médecin Malgré Lui, Georgibus dans le Sac, which became Les Fourberies de Scapin, and La Jalousie de Barbouillé, the later Georges Dandin. Two works of comedy proper mark this period, L'Elourdi and Le Dépit amoureuse. With the help of a reputation won in the provinces, and the patronage of the Prince de Conti, who introduced him through Monsieur, the king's brother, to the king and queen, M. launched his troupe in Paris under the title 'Troupe de Monsieur.' As pièce de début before the Parisian public he gave Les Précieuses Ridicules, 1659, the first satire on French cultivated society, or, more strictly, on would be cultivated society, especially as seen in the provinces. Its truthfulness to life, its galety and good humour secured for M. the public favour for ever. Comedy after comedy followed with remarkable rapidity for thirteen years. Me endeavoured to bring comedy up to the standard of tragedy, even to surpass it if possible, but he was obliged for financial reasons to provide also conventional and extravagant farces and-to satisfy the taste of the court comedies or operatic ballets, such as Les Fâcheuse, in which the words are only a protext for music and dancing. Sganarelle, a tragi-comedy, was produced in 1660; Dom Garcie de Navarre, an unsuccessful tragedy, in 1661; L'Ecole des Maris and Les Fâcheuse, both highly successful, also in 1661. L'Ecole des Fenmes, in which, as in L'Ecole des Maris, M. shows what happens when people's natural tendencies are ignored, was a brilliant success, but it brought upon its author those jealousies and bitter Tartuffe were performed. Tartuffe was an attack upon hypocrisy in religion, as it may come to flourish in the house of a bourgeois devot. But and r WAB. more pre-

vailed upon Louis XIV. to suppress it. M.'s enemies redoubled their attacks. led a very strenuous life, for he was! Only after five years was the whole

play authorised and played with extraordinary success (1669). Don Juan (1665) was another play in which hypocrisy was attacked; in L'Amour Médecin, Le Médecin Malgré Lui, and Le Malade Imaginaire, the doctors of the day are pilloried and quackery exposed; sincerity and coquetry come to close quarters in Le Misanthrope; the mortifications of the man who marries into a superior social rank are depicted in Georges Dandin : L'Avare shows that distrust comes to be the essential characteristic of the miser, and the immortal Bourgeois Gentilhomme makes fun of the bour-geois who would quit his native sphere and become a gentilhomme. The man M. was kind, gentle, affectionate, and magnanimous, beloved of his troupe, very charitable, and always ready to help others. If, at times, he became bitter and irritable, it was only when he was smarting under the cruel attacks of his enemies and feeling at the same time the pressure of his most strenuous life. He married Armande Béjart, a comédienne of his troupe and a coquette; with her he led a very unhappy domestic life. M.'s art marked an epoch in the development of the French drama: it brought about a new dramatic ideal. ideal hero ' of classic tragedy gave place in M.'s comedies to the real man with all his foibles and his duality of character-'On peut être intelligent en son entendement et sot en son caractère.' M. shows the man in his surroundings, not more or less de-tached from them as was the classic 'hero,' and thus incidentally throws a clear light on the whole group to which he belongs. His chief aim seems to have been to amuse by depicting things as they actually were, in strict truthfulness to life. Whether he had the deliberate moral aim to cure men of their foibles and vices is a moot point. The many opinions expressed by M. which seem to show that he had this aim should, according to M. Faguet, be looked upon as constituting his apologia rather than his set purpose. There is little room for sympathy in the amusement evoked by M.'s characters, the laughter they cause is the critical laughter of the intelligence — Gallic laughter, that of M. Bergson's book 'Leur rire est un on the subject. jugement 'may be said of M.'s audience—a point in which it differs from that of Shakespeare. See biographies by Moland (Paris) 1836, (Paris, 1886), Mesnard (Paris, 1886), Mesnard (Paris, 1896), Trollopa 1905), Chatfield-Taylor (1

Molina, Luis (1535-1600), a noted Spanish Jesuit, born at Guenca, in New Castile. He entered the Jesuit order at an early age, and for some time taught theology at the College of Coimbra in Portugal. Later, he was appointed professor of theology at Evera in Portugal, and remained here twenty years, then returning to Spain. Shortly before his death he was appointed professor of theology in Madrid. His chief work is his Concordia Liberi Arbitrii cum Gratic Donis, published 1599. He also wrote commentaries on the first part of the Summa of Aquinas, and De Justitia et Jure. M's doctrine is an attempt to reconcile the free will of man with predestination, and is still taught in the Jesuit schools.

Moline, a city of Rock Is. co., Illinois, U.S.A., on the Mississippi R., 4 m. from Davenport, Iowa, on the opposite bank. There are ironfoundries, steel-works, mills, machine shops, and manufs. of ploughs, pumps, scales, wagons, etc. Pop. (1910) 24,199.

Molinia, a genus of grasses common on damp moors. The long stiff stems of M. cærnlea are gathered and sold for cleaning tobacco pipes. A variegated form is grown in the garden as an edging plant.

Molinier, Guillem, a poet and prose writer of the 14th century. He took a prominent part in the foundation and administration of the Literary Academy of the Gaya Sciense at Toulouse in 1324, and was nominated chancellor. He wrote a treatise entitled Las Leys d'Amors, invaluable as a guide to young posts and for the knowledge of troubadour poetry contained therein. This work was published by Gatien-Arnoult in 1841-43, and translated by D'Aguillar and D'Escouloubre.

Molinos, Miguel de (1640-96), a Spanish mystic and ascetic, born of nobie parents in Patacina, Aragon. He was ordained priest, and went to Rome in 1669, where he became acquainted with many distinguished people. In 1675 he published his Spirikual Guide, an ascetical treatise which roused the antagonism of the Jesuits. It was finally condemned by the Inquisition, and M. was sentenced to life imprisonment. See Bigelow,

Molinos the Quietist, 1882.
Molique, Wilhelm Bernhard (1802-69), a German violinist and composer, born at Nuremberg. He was director

me of his compositions, his violin concertos, are

1906); and an interesting study by Emile Faguet in Etudes littéraires, (Arab. maula), a title of respect given XVIIE Siècle.

in theology and law, and to other worm-like creatures which, instead of prominent personages. It is especially a shell, bear on the dorsal surface used for one of the higher order of Turkish judges, who expounds both civil and criminal law and the re-ligion of the state. Beneath him is the 'cadi' who administers the law.

Mollendo, a port of Arequipa, Peru, and lies to the S.W. of Lake Titicaca. Its chief exports are sheep, gold, silver, copper, rubber, vicuna wool, and coco leaves. Pop. 6500.

Möller, Peter Ludwig (1814-65), a

Danish poet and critic, born at Aalborg. He wrote, Lyric Poems, 1840; Lövfald (The Fall of the Leaves), 1855, and the critical work entitled Det nyere Lystspil i Frankrig

og Danmark, 1858. Möller, Paul Martin (1794-1838), a Danish author, born near Veile. He visited China as a ship's chaplain (1819), during the voyage writing his poem, Glade over Danmark. In 1826 he became professor of philosophy at Christiania, professor extraordinary at Copenhagen (1830). His works include the romance, En Dansk Students Evenlyr, and the play, Exements Exemily, and the play, Eywind Skaldaspiller. His Efterladte Skrifter appeared in 1839-43. See also Collected Works, edited by Olsen (1856-6), by Andersen (1896). Consult Paul Martin Möller, by Rönning (1893), Andersen (1894).

Molluscs (Mollusca) constitute one of the chief divisions of the animal remote period in

majority live in at the lowest de, shallow water, and many above low-tide mark. A considerable propor-tion inhabit rivers and lakes, and very pear large numbers have adapted them-selves to a terrestrial life, some even contriving to exist in deserts, though most terrestrial M. are very dependent on moisture. The diet is much varied: carnivorous M. preychiefly upon other members of the class. Many feed exclusively on minute lowly organisms, and others are entirely vegetarian.
A few M. have long been valued as food, or as bait for other animals, some yield dyes, and others secrete pearls and pearly shells which have been and are employed for great diversity of ornament. The modern systematic arrangement of M. is in five classes, as follows: Class 1, Amphineura, comprises two orders, Polyplacophora, which includes the coat-of-mail shells, or sea woodlice (Chiton). These differ in many respects from other M., having points in common with crustaceaus and annelids, but after investigation of

a shell, bear on the dorsal surface minute calcareous spines. Class 2, Gastropoda, is divided into two sections, Streptoneura, the members of which are bisexual, furnished with a shell and generally with an operculum; the other section, Euthyneura, are hermaphrodite M., and scarcely any of them have an operculum in the adult state. The first section contains two orders, Scutibranchia, of which the limpets, top-shells and ear-shells are typical, and Pestinibranchia, typified by rock strills, whether imperior constants and the major words on The first cards after instrumentation they have been are all marine, e.g. bubble shells, sea hairs, and umbrella shells. The second order (Pulmonata) comprises the true snails, and slugs, and the false limpets. Class 3, Scaphopoda, includes only the tooth shells (Dentallidæ) which are a very distinct group of sand burrowers, with shelly tubes resembling those constructed by some marine worms. Class 4, Lamellibranchia, comprises the bivalves. All the members of this class have no head, nor cephalic eyes, nor jaws or tongue, like other M. All are aquatic and most of them marine. They are classified in four orders: (1) Protobranchia (e.g. Nucula), (2) Filipper black (e.g. experiments) branchia (e.g. common mussel, pearl oyster, scallops), (3) Eulamellikingdom, and were evolved at a very branchia (e.g. freshwater mussel,

orders, Tetrabranchia Of the former Dibranchia. pearly nautilus is the solitary living example, but with it have been classifled all the oldest fossil forms. Nautilus itself has been found in the oldest Palæozoic formations. differs from all other Cephatopods in having four instead of two gills, and a number of small retractile feelers instead of eight or ten arms with suckers or hooks. Among these, com-prising the order Dibranchia, are the octopus, the arronaut, squids, and cuttle-fish. In all cases, M. reproduce by means of eggs, but in the fresh-water snails (Vivipara) and other instances, the young are hatched within the parent's oviduet. Some bivalves produce eggs in enormous numbers, e.g. the common oyster, a million or more, and the American oyster, ten or fifty times as many. Terrestrial M., on the other hand, deposit very few eggs, and these are enveloped, in some cases, in a gelating ous mass, in others, in a thin soft their life history, there is no doubt as skin, and in a few are protected by a to their association with M. The other hardened calcareous shell. Many M. order, Aplacophora, includes a few deposit their ova in capsules (e.g.

common whelk), others produce them in spiral ribbon-like structures. The ova of most M. develop into free-swimming larvæ (Veliger), but in a few cases there is no metamorphosis. No M. has an internal bony skeleton, but in most of them the external but in most of them the external shell, which is secreted by the mantle publica Veneta, 1896, second edition, publica Veneta, common whelk), others produce them sailors for the small albatross of the in spiral ribbon-like structures. The Southern Ocean. or outer covering, affords adeque protection. In the shell, a variety of structures and arra: nent occurs, but it is of minor im-ment occurs, but it is of minor im-portance to systematic zoologists compared with the structural features of the animal. The shell may be Venezia, 1897: La Vie privée à bingle as in the limpet and snail, or be chute de la République, 1895-96. formed of two valves as in the mussel or oyster, or it may consist of a series of plates as in the Chitons. In the squid it is quite internal, and in a number of instances it is altogether absent. The foot is a modification of the ventral surface, and in the Cephalopods part of it is elaborated into the so-called arms, the other part forming a funnel through which water is ejected to cause the animal to move in the opposite direction. In the cockles it is evolved for leaping. in the limpet for clinging, in the razor shells for burrowing, and in the pond snails for swimming. The operculum is the flat hard structure with which the snail closes its shell. It also is subject to much elaboration. odontophore or radula, which occurs in all M., except the Lamellibranchs, is a remarkable structure; its upper surface is covered with spiny out-growths, and with this the limpet rasps the rocks for food, and carnivorous M. penetrate the shells of other

A sens smell. more

instance or one contest many M., a desert snail in the British Museum was found to be alive after having been fixed to a tablet for four years, where, of course, it could not obtain food or water.

M. From complete absence in some

species to the wonderful eye of the

Mollwitz, a vil. of Silesia, Prussia, 3 m. W. of Brieg. Frederick the Great routed the Austrians here in 1741.

Molly Maguires, the name of a Ribbon society which flourished in Ircland between 1835 and 1855, and harassed the landlords and their supireland between 1007 harassed the landlords and their supporters. It was also the name of a more notorious Irish secret society which terrorised the coal districts of Prussian general and statesman, born Pennsylvania, U.S.A., for some fifteen at Gnewitz, son of a Danish general. In 1822 left the Danish for the partial of the proposed in 1877. In that year many in 1822 left the Danish as advised as a distance of the proposed in 1839 took participants.

amms et son

Venezia, e la bat-

Moloch, see MOLECH.

Moloch Horridus, or Thorn Dovil, a
small Australian lizard about 8 in.
long, bearing large spines on all parts
of its body, giving it a most ferocious

appearance. Mologa: 1. A trib. of the Volga, which winds in a north and afterwards south-easterly direction for wards south-easterly interested for some 340 m., through the governments of Tver, Novgorod, and Jaroslav. It connects the Volga and the Neva... 2. A tn. near the confuence of the Mologa with the Volga, in the gov. of Jaroslav, Russia. Pop. less than 7000.

Molokai, one of the Hawaiian (Sandwich) Is., Pacific Ocean, between Oahu and Maui. There is a leper settlement on the N. coast. M. was the scene of Father Damien's work. Area 281 sq. m. Pop. 2500.

Molong, a tn. of Ashburnham co., New South Wales, 150 m. W.N.W. of Sydney nossessing comper and silver

Sydney, possessing copper and silver mines.

Molopo, a river of S. Africa, and trib. of the Orange R., flows through cuttles, organs of vision are to be found in all stages of development. Bechuanaland, divides and the colony British crown from protectorate.

Molteno, a tn. of Albert co., Cape of Good Hope. It has a station on the line connecting E. London with Aliwal N. Pop. less than 2750.

Molteno, Sir John Charles (1814-86), a S. African statesman, of Milanese extraction, born in London. In 1831 he sailed for S. Africa. In 1854 he became first member for Beaufort in the legislative assembly, and in 1872 was appointed first Cape Premier. In 1878 he retired from public life, being opposed in every respect to Sir Bartle Frere's policy. He received the decoration of K.C.M.G. in recog-

ampaign as adviser

1849. Took an important part in the conduct of operations in the Danish War (1864) and in the subsequent peace negotiations. Sent to Florence in Feb. 1866 to negotiate an alliance m ren. 1806 to negotiate an alliance with Italy against Austria. In the ensuing war with Austria he again displayed astounding precision and rapidity in formulating the general plan of campaign. With the Prussian king defeated the Austrians at Sadowa (1866). His foresight had king defeated the Austrians at Sadowa (1866). His foresight had much to do with the success of Germany in the Franco-German War of 1871, the details of the plan of campaign being prepared by him as early as the winter of 1867. He concentrated his armies on Metz with extreme caution, and in less than three weeks actually reached the walls of Paris. On his return to Prussia M. was created field-marshal. In 1873 M., with Baryatinski and the emperors of Germany and Russia. emperors of Germany and Russia, signed a treaty with Russia, a treaty ominous of the growing importance of Germany in the constellation of Powers. M. published many works, among which were: The Italian Campaign of 1859; The Franco-German War, 1872; and The German Army, 1871. Died at Berlin. Moluccas, or Spice Islands, several

groups of islands of the Malay Archipelago, lying between New Guinea and the Celebes, belonging to the Dutch. They include Ternate and Halmahera; Buru and Ceram (in the Amboyna group); the Banda Is.; Timor-Laut, Larat, and other of the Timor-baue, Ballet, and the Bachian, Obi, Kel, Aru, Babar, Leti, and Wetar groups. The M. are the and Wetar groups. The M. are mountainous and volcanic, and the soil is very fertile, the chief products of commerce being all kinds of spices, sago, rice, and coffee. The climate is fairly healthy, though hot and moist. Amboyna is the chief tn. and most imnortant commercial centre. Their total area is estimated at 43,864 sq. m., whilst the inhabitants, mainly Polynesians, Papuans, and Malayans, are estimated at 430,000.

Moluccella, a genus of hardy and half-hardy annuals (order Labiata), with flowers in willow phonis at large

Molucca b Molybde weight 95

metal, oc denite, Mo denum, which resembles graphite in dicularly to AB, then the moment of appearance, but which can be distinguished from it by the green tinge is equal to twice the area of the which it gives to the Bunsen flame. It also occurs in wulfenite, PbMoO4, or lead molybdate, and in a rare form as molybdenum ochre, MoO₂, the most moments of a system of forces about

to the Turkish commander-in-chief. important of the three oxides of molyb-Became chief of the general staff in denum. The metal is obtained by important of the three oxides of moly udenum. The metal is obtained by heating the oxide with charcoal, or in a current of hydrogen. Molybdenite when roasted oxidises to form the oxide, which is soluble in ammonia, forming ammonium molybdate, which is a delicate test for phosphoric acid.

Molyneux, see CLUTHA. Molyneux, William (1656-98), an Irish mathematician and philosophical writer, born in Dublin. A fellow of the Royal Society, and at one time president of the Dublin Philosophical Society, he was returned to the Irish parliament in 1692, and created a stir by his plea for the legislative inde-pendence of his country in The Case for Ireland (1698). He wrote the first English treatise on optics, Dioptrica Nova (1692), a subject suggested, perhaps, by his wife's tragic loss of sight.

Molza, Francesco Maria (1489-1544), an Italian poet, born at Modena. There he married, but most of his years were spent free from of his years were spent tree non-domestic ties at Rome and at Bologna, amid a brilliant and ad-miring literary band. His Ninfa Tiberina has been described as a glowing pastoral mosale, but most of his poetry seems but a frigid, if finished, paraphrase of Greek and

Latin verse.

Mombasa, or Mombaz, a scaport and chief tn. of the British East Africa Protectorate on the E. coast of Mombasa Is. It has a fine harbour, and is connected by rail with Uganda and with Lake Magadi (opened in It is an important com-

mercial centre. Pop. 30,000.

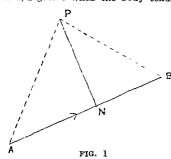
Mombo, a locality some 50 m.
N.N.E. of Bulawayo, S. Rhodesia. It is noted for ruins of archeological interest.

Momein, or Tong-yuah-ting, a tn. of Tün-nan, China, 135 m. E.N.E. of Bhamo (Burma). Has important

cattlemarkets. Pop. (estimated) 6000.
Moments. The moment of a force about a given point is the product of the force and perpendicular drawn from the given point upon the line of action of the force. It is clear that the moment is zero when either the force is zero or its line of action passes through the given nted ngle.

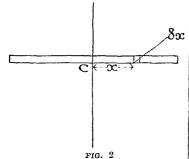
triangle PAB. From considerations of such areas, it may be easily deduced that the algebraical sum of the

AB nnd a point is equal to the moment of or plane. Generally, the body rotates their resultant about that point, about an axis which is treated paying due regard to sign. common convention of signs is that the moment is positive if the force tends to turn the body about the point in a counter-clockwise direction, negative when the body tends



to turn in the opposite direction. physical interpretation of the moment of a force is noticed by supposing the body to be a plane lamina, one point P being fixed. A force applied to it would tend to turn the body about the point P as centre, and hence this effect would only be zero when the force is zero or the line of action of the force passes through P. Moment of inertia.—A constant of

a body which is most important in the mathematics of the rotation of a rigid body. Consider a rigid body



divided up into very small particles, the moment of inertia of the body about a given point, line, or plane is defined as the sum of the products obtained by multiplying the mass of

The mathematically as a line, hence the moment of inertia of a body about a line is of most importance. simple cases are noticed here. The easiest method of calculating the moment of inertia is by means of the integral calculus. A uniform rod integral calcinus. A uniform too of length 2l and line density protates about an axis perpendicular to it through its centre C (Fig. 2). Take an element & at distance a from C. Its mass—pax, its moment of the control of inertia = $\rho x^2 \delta x$, therefore moment of inertia of the therefore total rod≈ L^2 $2\int_0^l \rho x^2 \delta x = 2\rho \frac{l^2}{3} = M\frac{l^2}{3}$, where M= total mass=21p. The moment of inertia of a rectangle, sides 2a and 2b, is found by dividing it up into thin rods parallel to one side, e.g.

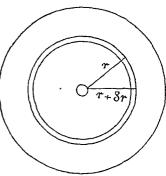


FIG. 3

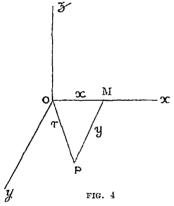
side of length 2b. Then the moment of inertia of the rectangle about a line through its centre parallel to the

side $2\alpha = M_{\overline{3}}$, where M is the total mass of the rectangle. A circular plate (Fig. 3) is divided up into annular rings. If O is the centre, take the ring, the radii of whose boundaries are r and $r+\delta r$. Its mass= $2\pi r.\rho.\delta r.$, where $\rho = density.$ moment of inertia about an axis O perpendicular through plane of the plate = $2\pi r \rho \cdot \delta r + r^2$. Total moment of inertia of the plate= $\int_{0}^{a} 2\pi \rho r^{3} \delta r$, where a is the radius.

Therefore moment of inertia=

where M=mass of the plate. Two obtained by multiplying the mass of very important theorems in coneach element by the square of its nection with the theory are the distance from the given point, line, following: (1) If we take three per-

particle of mass m about these axes, the position of the particle being in the xy plane and having co-ordinates (x, y), i.e. oM = x, MP = y, then $I_r =$ my^2 , $I_v = mx^2$, $I_z = mr^2$, where I denotes the moment of inertia, and the suffix the axis about which the moment of inertia is taken. Then I_x+I_y $=m(x^2+y^2)=mr^2=I_{z_1}$ (2) Again, I_1 =moment of inertia of the body about an axis through the centre of gravity and I_2 =moment of inertia about a parallel axis at a distance h from it, then I_2 = I_1 +M h^2 , where M= mass of the body. Thus the moment of inertia of a circular plate about

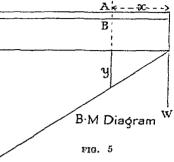


an axis perpendicular to its plane , hence the moment of inertia about a diameter=Ma2 , since the first axis is perpendicular to the diameter and from the symmetry of the figure the moment of inertia about any diameter is the same, any

a tangent= $\frac{M_{12}}{4}$ +Ma² by the second

theorem. Bending moment.—Consider a beam fixed at one end, a load can be applied to the other greater than it can bear. The beam may bend to such an extent that rupture takes place or one part slides over the other. If the beam does not break the load still tends to produce the above results, which tendency is resisted by

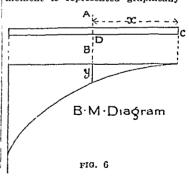
pendicular axes ox, oy, oz (Fig. 4), and itself. Clearly when the beam bends, consider the moment of inertia of a the upper surface is elongated and the lower surface is compressed, and the stresses generated are obviously equal and opposite in direction, thus constituting a couple. This couple resists the bending which necessarily must be caused by an external



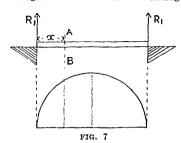
couple, which is called the bending moment at the section of the beam under consideration, and is equal to the moments of the external forces on the part of the beam on one side of

the section about the section.

Examples: (1) Cantilever load at the free end (Fig. 5) .- Take section AB whose distance from the free Then the bending moment end = x. at this section = Wx, if the bending moment is represented graphically



bending moment by y and tho diagram by the triangle, since y = Wx. (2) Cantilever with uniformly distributed load (Fig. 6). — Let $w = \frac{1}{I} =$ weight per unit length. Then load on part DC is considered as acting at results, which tendency is resisted by its centre of gravity. Bending moment stresses called into play in the beam at $AB = \frac{1}{2} wx^2$. The bending moment. diagram in this case is a parabola and I the bending moment is represented by y. (3) Beam uniformly loaded and supported at both ends (Fig. 7).—Let R, be the reactions, w=weight per unit length. Then bending moment at $AB = R_1x - \frac{1}{2}wx^2 = \frac{1}{2}wx(L-x)$, where L =length of the beam. Bending



moment diagram is a parabola. The bending moment is clearly greatest at the middle point= $\frac{1}{2}w.\frac{L}{2}(\frac{L}{2})=\frac{wL^2}{8}$. The more complicated questions of rolling loads, and loads unevenly dis-

tributed, admit of similar solutions.

Turning moments.—A flywheel of an engine acting against a friction brake is an example of this. The wheel rotates against a force, and thus there is a turning moment which in the steady state of motion is equal to the moment of the frictional force about the axis.

Momentum, a quantity in dynamics obtained by multiplying the mass of a body by its velocity. It is a directed quantity, and the M. of a system of particles is obtained by adding together the M. of the several component particles according to the vector law. The impulse of a force of a particle is measured by the on a particle is measured by the change of M. it produces in it, and thus by Newton's third law the total M. of a system cannot be altered by any action between its component parts. This principle is known as the conservation of momentum.

Momerie, Alfred Williams (1848-1900), an English divine, born in London. He was ordained priest in 1879. In 1880 he was appointed professor of logic and mental philosophy at King's College, London, and 1883 chosen morning preacher at the Foundling Hospital. He published sermons and works on the philosophy of Christianity.

Mominabad, a tn. in Nizam's Dominions, Central India, 165 m. N.W. of Haiderabad. Pop. 14,000.

German classical scholar and historian, born at Garding in Schleswig-Holstein. His detailed knowledge of Roman history and critical methods of procedure attracted the attention of the Berlin Academy, who commissioned him to examine Roman inscriptions in France and Italy. In 1848 M. became professor of jurisprudence at Leipzig, but he was compelled to vertice from this office in pelled to retire from this office in 1850 owing to his revolutionary tendencies in politics. In 1852 he was appointed to the chair of Roman law at Zürich, and in 1854 he became professor of the same subject at Breslau. In 1858 he became professor of ancient history at Berlin, and during his professorship he compiled the famous Corpus Inscriptionum Latinarum and assisted in the com-pilation of the Monumenta Germaniæ Historica. From 1873-95 he held the Austorica. From 1873-95 he held the position of secretary to the Berlin Academy of Sciences. From 1873-82 he was a member of the Prussian House of Representatives, and was consistently democratic in his views. His chief works, beside those mentioned, are: Oskische Studien, 1845; Die Unteritalischen Dialekte, 1850; Corpus Inscriptionum Neapolitanarum. 1851; Die Rechtsfrage Zwischen Cäsar und dem Senat, 1857; Geschichte des römischen Münzwesens, 1860; Res Gestæ Divi Augusti; and an edition of the famous Monumentum Ancyra-num. But it is for his History of Rome (1853-56) (see Everyman's Library, Eng. trans.) that the name of M. will chiefly be remembered. The author's extensive knowledge and critical insight place the work in the forefront of Roman histories.

Momordica, a genus of tropical climbing plants (order Cucurbitacees), with white or yellow flowers and ornamental gourds of various shapes,

sometimes called balsam apples.

Momostenango, a tn. of Guatemala,
Central America, 13 m. N.N.W. of Totonicapam. Has manufs. of cloth.

Pop. 18,000.

Momotornbo, a vil. of Nicaragua, at the N.W. end of Lake Managua. In the vicinity is the active volcano of Momotombo (6124 ft.), which was in eruption in 1902 and 1905.

Mompos, or Mompos, a tn. in the dept. of Bolivar, Colombia, on the Magdalena R., 110 m. S.E. of Cartagena. It was formerly a prosperous port. Pop. 10,000.

Mompox, see Mompos. Mona, the name used by Tacitus

for the Isle of Anglesey.

Monaco, a small Italian principality, bounded on the S. by the Mediterranean and surrounded on all its other sides by the French department Mommsen, Theodor (1817-1903), a of Alpes Maritimes. Area S sq. m. M. the name of Jacques I. It was annexed by France in 1793, and was ceded to Sardinia in 1846. It then came into the possession of King Victor Emmanuel, who sold it to France in 1861. The principality is still under the protection of France. Until 1910 the Prince was an absolute ruler, but in that year a constitution was established providing for a national council elected by universal The capital is Monaco (pop. 2410), other towns being La Condamine (6218), and Monte Carlo (3794). The principality flourishes chiefly on the famous Casino and gardens. M. is the seat of a Roman Catholic bishop (since 1887). The climate is temperate and pleasant. Palms, olives, oranges, citrons, and aloes grow abundantly. The capital has a fine palace, cathedral, college, museum, etc. Perfumery, spirits, and pottery are the chief manufs. The ruling sovereign is Prince Albert (b. 1848, succeeded 1889). Pop. of principality, 19,121.

Monad, see Infusorians.

Monad and Monadism. The philosophy of Leibniz (q.v.), which is included in these terms, is intermediary between that of Spinoza (q.v.) or monism, and that of Descartes (q.v.) or dualism. A M. may be said to be the ultimate constituent of all substance; monads are simple and similar in constitution; they only differ qualitatively; each is a self-contained individuality, and a monad has two qualities-perception, or capacity to mirror the universe, and appetite, or striving. From the highest monad, which is God, to the very lowest all are constituted so that at all moments they are all in harmony, although each works out its own development under its own laws independently of all the others. Man is built up of a complexity of monads, while his soul is a single monad, the centre of his being. See Leibniz, Monadologie (trans. by Latta), and Nouveaux Essais (trans. by Langley).

Monadnock, Mount, or Grand Monad-

came into the hands of the Grimaldi managh. None of the rivers are navifamily in 968. In 1715 it passed into the female line, and on the death of Louise Hippolyte, her husband, county near M. and Clones. The S. Count of Thorigny, succeeded under contains rich and productive land, but the most fertile part is the central. including the baronies of M., Cremorne, and Dartree, Agriculture is the main occupation, flax and wheat being the chief products. Linen is the chief manuf. The area is 500 sq. m. Pop. (1911) 71,395. 2. The co. tn., 15 m. W.S.W. of Armagh, contains the college of Macartan and a Roman Catholic chapel. The borough obtained its charter from James I. Pop. (1911) 2932.

Monarchianism. The term applied derisively by Tertullian to those heretics of the 2nd and 3rd centuries who denied the doctrine of the Trinity and constituted themselves the defenders of the 'Monarchy of God or monotheism. Christian Latter-day historians classify Monarchians into the Adoptionist (from the view that Christ was the Son of God by adoption only) or Dynamistic sect, who held Christ to be a human being with the property of the contract of t being endowed with divine powers, and the Modalistic sect, who regarded Christ as the incarnation of God the Father, and maintained generally that the Trinity was really reducible to different conceptions under which the One Divine Being might be viewed. According to the authority of The Little Labyrinth, an anonymous work ascribed variously to one Caius, a member of the Roman Church and Theodorett. and Church, Theodoret, and to against the heresy directed Artemon and Theodotus, it seems that one Theodotus, a shoemaker, was the first to teach that Jesus was mere man, and incurred excommunication for his views. Artemon, who be-longed to the ante-Nicene Monarchians (or Adoptionists), declared the doctrine of the divinity to be an innovation dating from Zephyrinus and a relapse into heathen polytheism. He also asserted that Christ was a mere man, but born of a virgin, and superior in virtue to the prophets. His views, for which he, too, incurred excommunication, were developed by Paul of Samosata (see Eusebius, Hist. Eccl.). The dynamistic heretics are largely associated with the Monadnock, Mount, or Grand Monadnock, an isolated mountain in Alogians, or deriders of the Logos, the term Alogians or Alogi being inshire, U.S.A. Alt. 3186 ft.

Monaghan: 1. An inland co. in the prov. of Ulster, Ireland. The N. is watered by the Blackwater, the S. by the Erne and Glyde, and the W. by the Erne. The surface generally is hilly, the Slieve Beagh range, 1250 ft. distinguished from themorethorough at its highest point, extending along the whole N.W. boundary into Ferman Alogians or Alogi being invented by Epiphanius to emphasise their rejection of the divine word preached by John. Their views are regarded by Epiphanius as inspired by the Branch of the Logos, the term Alogians or Alogi being invented by Epiphanius to emphasise their rejection of the divine word preached by John. Their views are distinguished from the more thorough the provided by Epiphanius to emphasise their rejection of the divine word preached by Epiphanius to emphasize their rejection of the divine word preached by Epiphanius to emphasize their rejection of the divine word preached by Epiphanius as inspired with the Erne. The surface generally is along the provided by Epiphanius to emphasize their rejection of the divine word preached by Epiphanius as inspired by Theodotus, but they ought to be distinguished from the more thorough and the W. by Theodotus, but they ought to be distinguished from the more thorough and the W. by Theodotus, but they ought to be distinguished from the more thorough and the W. by Theodotus, but they ought to be distinguished from the more thorough and the W. by Theodotus, but they ought to be distinguished from the more thorough and the word of the control of Alogians, or deriders of the Logos, the

name mainly associated with the Santa Laura, Mt. Athos, ma Modalistic M. is that of Praxeas, taken as a typical Eastern M. against whom Tertullian especially enclosed within high stone walls hurled his fulminations. Praxeas was both Monarchian and Patripassian (the Western name for the Sabellian heresy that God the Father suffered (patior) in the person of the Son). Praxeas (whose real name has been asserted to be no other than Epigonus) was a confessor from Asia Minor, 'the seed plot of the Monarchian views.' He converted the Pope Eleutherus (or according to others, Pope Zephyrinus), and by so doing, says Tertullian, did a twofold service for the devil at Rome, for 'he drove away prophecy and introduced heresy. He put to flight the Paraclete and he crucified the Father. See also Harnack's article on M. in Herzog's Real-Encyclopädic; Tertullian (Dodgson's trans.); and Dictionary of Christian Antiquities (passim). Monarchy, see Sovereignty.

Monarda, a genus of N. American rennials (order Labiatæ). M. dyma, the sweet bergamot, or perennials didyma, the sweet bergamot, or Oswego tea, bears whorls of fragrant scarlet flowers from June to August.

Monasterevin, or Monasterevan, a par, and market tn. in the co. and 6 m. W.S.W. of the tn. of Kildare, Ircland: has breweries and distilleries.

Pop. (1911) 2000.

Monastery, an abbey, priory, or convent for monks or nuns dedicated to the religious life and under the rule of an abbot or abbess, except in the case of the cathedral convents, where the bishop was the abbot and the superior of the establishment was called a prior or prioress. In its early stages when monasticism was practised in the eremitical form, the Ms. were merely groups of cells or huts. St. Pachomius built his first M. in the form of a village, with rows of huts large enough to accommodate three monks in each, and with a common refectory and a church. Under his rule the monks worked at different carpentering,

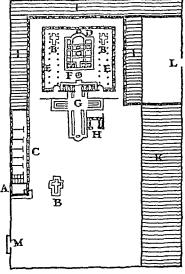
roduce being shipped to Alexandria and sold to support the community. As time As time went on and the number of convents grew, it not only became necessary to make the establishments more com-pact, but it also became necessary to guard them from outside attack, and encompass them with means defence, and the monks then erected massive buildings, containing all the necessary accommodation and surrounded with high walls as a protection against a possible enemy.

formed part

may enclosed within high stone walls, and occupies between three and four acres of ground. The main entrance, which is composed of three iron doors. is on the N. side, and is guarded by a tower, the only other entrance being a small postern on the S. side. On r courtyard

facing, and use with a

cloister running along the front. The



MONASTERY OF SANTA LAURA, MOUNT ATHOS (LENOIR)

Gateway; B, chapels; C, guesthouse; D, church; E, cloisters; F, fountain; G, refectory; H, kitchen; I, cells; K, storehouses; L, postern gate; M, tower.

refectory, kitchens, storehouses, etc., are also in this courtyard, which thus becomes the centre of the material life of the community, while the inner courtyard forms the centre of the religious life. Passing through, the

the courtyard, which is surrounded by cloisters on to which open the cells of the monks, and in front of it The Eastern or Oriental Ms. dif-fered slightly in their architectural the refectory stands in the outer plan from those of the West. That of courtyard, the entrance is effected there is a marble fountain. Although the refectory stands in the outer cruciform imilding, and is decorated with frescoes representing various saints. In the Eastern M. this building took the place of a chapter-house. the meals as a rule being taken in

solitude in the cells. The Coptio Ms. adopted a different 'ha cartyards couples

being the N alongside it runs an immense gallery with the cells opening out on either side. It was during the great monastic revival of St. Benedict (see MONASTI-CISM) that the greatest number of beautiful Ms. were built. The Benedictine Ms. all followed one architectural plan, which was, of course, modified according to the site. The buildings were crecied in a series of groups; the church, as the centre of the religious life of the community, was placed in a cloistered courtyard, round which were ranged the other buildings forming a necessary part of the monastic life, the chapter-house, the dormitory, the common room, and the referency. Another group is formed by the infirmary, w

and the school for the novice beyond the convent enclosure visitors not far distant. Usually there were three guest-houses, the one already mentioned, while the

physician's house and physic . .

other two for munks and poor travellers were placed on either side of the main entrance. The buildings connected with the material wants of the three aisles by pillars and arches. The community lie to the S, and W, of the position of the refectory is also a

church, the kitchen, buttery, house, brewhouse, etc., the refe being reached by a passage from kitchen, and beyond these were ranged the workshop, stand farm buildings. The great Swiss M. of St. Gall (820 A.D.) was a typical

Benedictine M., and the same plan is followed out more or less fail hfully in most of their buildings, with slight variations due to the locality. So, for instance, at Centerbury the cloister and monastic buildings are situated to the N. of the church instead of the S. as is usual, and at Worcester and Durham the dormitories follow a slight difference in arrangement. At

Westminster Abbey and St. Mary's Abbey, York, the original Benedictine plan is adhered to.

The Cluniac Ms. grouped their buildings somewhat differently, and in the plan of the abbey of Cluny, founded by William, Duke of Aquitaine and Count of Auvergne, the cloister is placed considerably further W. than is usual, and the monastic Benedictine plan more or less, but a buildings do not open out of it, but leading characteristic of their build-

from the inner courtyard; it is a large, are placed in a separate group. There were not a great number of Cluniac houses in England, the one at Lewes was the first, but the best preserved are at Castle Acre and Wenlock.

Following on the Cluniac Ms. came those of the Cistercians, the chief characteristic of which was their plainness and simplicity, the outward expression of the rigid rule they adopted. Unnecessary decoration of any sort was forbidden, such as turrets, pinnacles, or stained glass, and the sites chosen were usually wild and desolate. The first of their houses was the abbey of Citeaux. They followed out a particular plan. The buildings were divided into two wards, separated by a wall, in the outer were the barns, granaries, stables, workshops, etc., and in the inner the monastic buildings proper, with the church occupying the central position. At Clairvaux (A.D. 1116) there are two cloisters, and on the eastern side beyond the monastic buildings there are gardens, orchards, and fish-ponds placed outside the convent walls. The church was also built on a plan to those of

with a very short sh was, as a rule, ivariably had two abbot's house and the outer school, square chapels on the E. side of the with the guest-house for distinguished transepts, which were divided off with solid walls, and at Clairvaux there are nine chapels radiating round the apse, also divided by solid In the Cistercian Ms. the walls. chapter-house was always quadrangular, and was divided into two or

> in the Benedictine laced parallel to the ch on the side of the removed from it, and

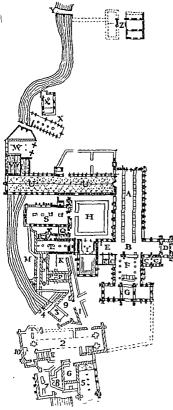
but in the Cistercian houses it was placed at right angles to the church, and ran N. and S. The buildings may be placed in five groups. (1) The outer ward containing all the buildings connected with labour of all kinds. (2) Those connected with hospitality and the material require-ments of t within the

and monas cloister, wi

and literary requirements. (5) The infirmary and novices' quarters. The first Cistercian house to be founded in England was that of Waverley Abbey, pear Farnham, of which but little now remeins. That of Fountains Abbey, Yorkshire, is the best preserved, others being at Rieraulx, Kirksiall, Tintern, Netley, etc.

The Augustinian Ms. followed the

ings is the immense length of their At Llanthony and Christ Church churches, which were devised to (Twynham) the choir is shut off from accommodate large congregations. the aisles. Sometimes there are no



GROUND PLAN OF FOUNTAINS ABBEY, YORKSHIRE

ABBEY, YORKSHIRE

A, Nave of the church; B, transept;
C, chapels; D, tower; E, sacristy;
F, chor; G, chapel of nine altars;
H, cloisters; I, chapter-house; K,
base court; L, calefactory; M, watercourse; N, cellar; O, brewhouse;
P, prisons; Q, kitchens; R, offices;
S, refectory; T, buttery; U, cellar
and storehouse; V, necessary; W,
infirmary; X, guest-house; Y, mill
bridge; Z, gate-house, abbot's house.

1, Passage; 2, great hall; 3, refectory;
4, buttery; 5, storehouse; 6, chapel;
7, kitchen; 8, ashpit; 9, yard;

10. kitchen tank.

At Lianthony and Christ Church (Twynham) the choir is shut off from the aisles. Sometimes there are no aisles at all, as at Bolton and Kirkham, while at Brinkburn and Lanercost there are only N. aisles. The abbey of St. Augustine at Bristol was typical of the Austin canons, their church now being used as the

The Premonstratensians, in building, followed the plan of the Austin canons, of which they were a branch. The first English establishment was at Newhouse in Lincolnshire (1140 A.D.), but the best preserved are those of Easby, Yorkshire, and Bayham, Kent. At Easby it is noticeable that the buildings are not arranged with the usual uniformity and precision which gives a somewhat straging appearance, and the church at Bayham is characterised by its extreme narrowness and the absence of all ajsles.

The Carthusian Ms. departed from all the other communities in their architectural plan, owing to a wide difference in their rule. Their order sprang up when eremitical monasticism was revived, and as solitude and silence were enjoined by their founder. St. Bruno, it was necessary to build in such a manner that this could be carried out. The M. was therefore arranged in a series of cells or small cottages, each containing a livingroom, sleeping-room, etc., surrounded by a small garden, and opening on to a corridor, which in its turn opened on to a cloistered gallery connecting the whole. At the great Carthusian M. of Clermont these cells occupy three sides of the cloister, and on the W. lies the church, the chapter-house, and refectory, with the other neces-sary offices. This arrangement is invariably found throughout the charter-houses, as they were called in England, of which there were never more than nine. The best preserved is that of Mt. Grace in Yorkshire, though that of Witham in Somersetshire is the earliest. Others were at Sheen, Richmond, and the famous Charter

House in London.

A word must be said about the monastic buildings of the Mendicant orders, which formed a distinct class. They were usually planted in large towns, and were of necessity adapted to the sites chosen, so that there was seldom any regularity in the buildings, and their best efforts were concentrated on their churches, which were built with a view to accommodating large congregations. These were generally long-shaped buildings without any transepts, the nave being divided into two parts, one for the brotherhood, and the other for

the congregation. The E. end was as | a rule square, and there was no choir. In some of the Irish monasteries one transept may be found as large or even larger than the nave. Originally these churches had no towers, but in some of the structures of the 14th and 15th centuries, where a choir was introduced, there were tall, slight towers, while the Grey Friars' (Franciscan) at Lynne has an hexagonal tower. One of the best preserved English friaries is that of the Dominicans at Gloucester, where there is also a Franciscan convent. The Dominicans' house at Norwich may also be quoted. Of the Carmelite or White Friars, the best example is the Abbey of Hulne near Alnwick, which was their first foundation in England (1240 A.D.). Of the Black Friars and Grey Friars in London, only the names remain, but the nave of the church of the Austin Friars has been preserved. The destruction of the beautiful Ms. in England must be laid at the door of Henry VIII. and his adviser, Thomas Cromwell. They saw in the monastic property vast possibilities of wealth. The Act of Dissolution passed in 1536 suppressed all Ms. with an income of less than £200 a year, but though this still left the larger Ms. free, they gradually fell into the king's hands, through the attainder of their abbots, as at Glastonbury, and they shared the fate of their lesser brethren. Many of them have fallen into ruin from neglect and decay. See Lenoir, Architecture mon-astique, 1852-56; Gasquet, English Monastic Life, 1904, containing full bibliography and complete list of English houses; and Hamilton Thompson, English Monasteries, 1913. Hamilton

Monasticism (from Lat. monachus, a monk; Gk. μονάχὸς, solitary), a general name descriptive of a mode of religious life which has prevailed in the Church from almost the earliest the Church from almost the earliest ages, and which, during many periods of its history, has formed the most characteristic and powerful expression of its activity. It sprang into settled existence during the 3rd century, and was the natural product of many influences then moving the Church. Previously to this period, indeed, a system of solitary and ascetic devotion is found prevailing among the Jews both in Palestine and in Alexandria. The main causes out in Alexandria. The main causes out of which M. arose, however, are undoubtedly to be found within the Church itself — in those hardships and persecutions which oppressed it, especially during that age, and the spirit which these persecutions natur-

Christians were driven from their homes in search of shelter from the relentless vengeance which pursued The comparative security of those remote wilds in which they sought refuge seems to have been the direct source of the monastic idea. Such an isolation as that in which many now found themselves came to be regarded by them as the only possible realisation of the Christian life. Egypt was the fruitful soil in which such thoughts germinated and sprung to maturity. The honour of their original has been shared by two names—Basil and Anthony the former of whom may be regarded as the first in point of time who exemplified in his own practice that Christian asceticism which developed into M.; but the latter of whom was really the first who drew such attention to the monastic life as to spread abroadits fame and attract many to its adoption. Anthony was born on the borders of Upper Egypt, in the village of Coma, in the province of Heracleopolis, about the year 251. A spirit of simple and earnest, but somewhat unintelligent, piety animated him from his youth. Losing both his parents about his twentieth year, the care of a young sister and of considerable property devolved upon him. Setting aside the ordinary Christian obligations arising out of this position, he conceived himself called upon to dispose of his property, and submit to a life of voluntary poverty in which he might without impediment give himself to his spiritual duties. In obedience to this impulse, he assigned his landed estates to the inhabitants of his native village, under condition that he should receive no trouble as to any charges to which they were liable; and having made provision for the education of his sister with a society of pious virgins, he settled down near his paternal gnis, he settled down near his paternal mansion, and commenced a life of rigid asceticism. He supported him-self by the labour of his hands, and distributed whatever exceeded the supply of his own bare wants for the benefit of the poor. Those natural feelings which he strove to mortify continued to assent themselves in continued to assert themselves in such a manner as to disturb the serenity of his spiritual contempla-Afterwards he learned the more Christian way of resisting such temptations by cheerful activity and trust in the presence of the Lord. He retired to a farther distance from his native village, and took up his abode in a recess of rock, such as the Egyp tians used for purposes of entomb-ment. Here he fasted and afflicted ally quickened and fostered. During himself till he was overtaken by ill-the severities which followed the edict needs and carried back in a fainting of Decius in the year 250, many and semi-deranged condition to the

his name. The deserts of Egypt began to swarm with devotees, who courted that which, upon the whole, with all his presence and example, and naturally acknowledged him as their leader. Followers gathered around him in spite of all his efforts to maintain his privacy; and the first rudi-ments of a monastery grew up in this remote wild. Anthony did not indeed aim at any complete organisation of his followers; this task remained for another; but he taught them to labour for their support, and directed to some extent their religious duties. The life of Anthony was prolonged to upwards of a hundred years, and his saintly fame, as may be easily conceived, grew with his years, till a peculiar sacredness and a miraculous virtue were supposed to attach to his person. He distinguished himself at such times of public activity as the warm friend of Athanasius in his contest with Arianism; and it is to this circumstance that we probably owe the record of his life from the pen of the great Trinitarian—a record to which the historian is indebted for such facts as we have now related. The system thus begun by Anthony speedily spread into Syria and Palestine. Hilarion, a disciple of Anthony, was chiefly instrumental in the promotion of M. in Palestine; while the great Basil of Cæsarea, the fellowstudent and friend of Gregory Nazianzen, warmly embraced its spirit, and more than any other contributed to its progress throughout Syria and to the shores of the Black Sea. Gregory, indeed, never virtually assumed, like Basil, the monastic vows; but the triumph of the ascetical bent was in the end scarcely less complete in him than in his friend. While the institution of M. thus extended itself, from the example of Anthony, not only in Egypt but throughout the East, its more complete organisation is associated with the name of Pachomius, another Egyptian ascetic. To him is attributed the foundation of the cloister life, or the collection of the monks in several classes, according to a regular system, and in one large connected building. This was pro-perly the first establishment of the In the monastery or comobium. natural course of things this organised character. Seeluding himself from all form of M. soon came to usurp a clusive character as the only clusive character as the only expression of the ascetic spirit.

village. He afterwards sought a still lishments. The most various results, more distant retirement, where he remained for twenty years, maturing institution like Eastern M. In some a saintly renown which spread abroad cases there was formed a comparacases there was formed a comparatively pure spirit of devotion, such as

> an ungrudging spirit maintenance and lodgings. Individual fanaticism, moreover, took the most grotesque and incredible shapes; as in the case of the famous Simeon Stylites, who is reported to have passed thirty years on the top of a pillar 60 ft. from the ground. Athanasius has obtained the reputation of extending M. into the West. During his compulsory sojourn in Rome in 341 he is said to have carried certain Egyptian monks in his train, whose austerities and devotion, though at first disgusting to the polished Romans, gradually attracted interest and at length admiration. His Life of Anthony, moreover, which was speedily translated into Latin, gave a great impulse to the monastic spirit. All the most illustrious of the Western teachers contributed by their countenance to this result. Ambrose of Milan, Martin of Tours, and even Augustine, were drawn within its influence, and lent it their encouragement. The restless activity of Jerome during his residence in Rome was exerted in its behalf, and under his influence rich and noble ladies were led to retire from the world and consecrate themselves, amid the solitudes of Palestine, to a life of devotion. The labours of Martin of Tours, and of Cassian at Marseilles, were especially successful in transferring M. west-wards, until, in the course of the 5th century, thousands of devotees spread themselves through the south and middle of France into Britain and Ireland. A yet more thorough system of organisation was accordingly necessary to strengthen its widely-branching relations and to consoli-date it in its diffusion. And such a system was not long wanting. There arose among the monks of Italy one who saw the dangers to which M. was exposed, and who resolved to en-counter them by a more systematic and efficient control. Benedict of Nursia was prepared for this great task by a self-discipline of the strictest

l his retreat unknown earlier Anachorets—who lived in to any save a brother monk, who prosingle cells, with only a casual combination and without submitting to the foot of any definite rule—were gradually absorbed into the more regular estabnder protesta-

chiefly comeclesiastics.

Benedict lived. Some shepherds at St. Benedict (Waddington's Church length discovered his retreat, and History, vol. ii. p. 377). As a monk it spread abroad the fame of the holy was that Hildebrand nursed those His influence was thus at once secured; he was invited to the · convent, and

of the government which he would feel bound to establish would prove intolerable to those who gave him the invitation. It turned out as he supposed: the refractory monks even sought his life; and, leaving them in disgust, he retired once more to his solitude. This event only contributed the more to his fame. He was gradually enabled to found and regulate, according to his own plan, twelve cloisters in the neighbourhood of his original seclusion. Rigorous as were the personal austerities of St. Benedict, he was convinced by experience that an un-due severity of fasting and mortification was incompatible with a Western climate and Western habits. His rule was characterised rather by its simplicity and order than by any par-ticular severity. Two hours after midnight the monks were aroused to vigils, and the time between this and vigils, and the time between this and daybreak was consumed in learning the psalms by heart, or some other similar study. At daybreak matins were performed, somewhat in the same manner as vigils, by chanting psalms and reading lessons from Scripture. The duty of private and reportal preserves else enjoined mental prayer was also enjoined under certain restrictions. carly services were followed through-out the day by manual labour and reading. During summer the day was so divided that seven hours were given to the former occupation and at least two to the latter; during winter more time was given to study, but no alteration appears to have been made in the hours of labour. The Sabbath was entirely given to reading and prayer. The rule thus established by Benedict extended itself, as we have said, throughout the West, and for many years was instrumental in preserving the integrity and simplicity of devotion in its cloisters. With the devotion in its cloisters. gradual increase of riches, however, the Benedictine monasteries lost their primitive character, and became the seats of indolence and vice. attempts were made to revive the first rigour of the rule, and still more successfully to apply it in new forms, each of which in its turn achieved a great reputation, and powerfully helped the cause of the papacy in the different countries into which it spread. In this manner arose the order of St. Cluny, and the Cistercian

ambitious schemes which he afterwards carried out as Gregory VII.
The immortal name of St. Bernard is associated with the Cistercian order. of which the Abbey of Clairvaux was a dependent, and the simple purity of the Carthusians acquired for them a great reputation. In the meantime other forms of monastic order had sprung up, the most notable and distinguished of which, dating from an early period, was the order of St. Augustine, which was destined to t in the ad-This order.

nerally, aconstitution, there were but a few eligible or devoted to the ecclesiastical life. There are still two further developments of are still two further developments of the monastic system that claim notice. These are the rise and estab-lishment of the Military and the Mendicant or Preaching orders. The former sprang up out of the close union subsisting between the eccle-siastical and the military professions in the widdle area and expectably at in the middle ages, and especially out of the crusading spirit of the 12th century. They are well known under the historical names of the Knights of the Hospital, the Knights Templar, and the Teutonic Order. They took their rise in Palestine. They gradually disappeared about the time of the Reformation. While the Military orders arose out of the external necessities of the Church, and the warlike spirit kindled by the advance of Mohammedanism, the Mendicant orders originated in the internal dangers of the Church from the encroaching spirit of reform and of free opinion. St. Dominic (1191) acquired his fame as a preacher against the heresy of the Albigenses; and, recognising the effects following such eloquence in his own case, he framed the bold idea of own case, he ramed the bold loss of establishing an order of Mendicant preachers whose vow should especially bind them to the interests of the Holy See and the extirpation of heresy. Innocent III. at first looked coldly on the project, but its obvious policy soon commended it to papal seem it was under the recognition. For it was under the shadow of the Dominican order that the Inquisition inaugurated its career. St. Francis of Assisi was a contemporary of St. Dominic, and pursued, independently of him, a similar course of fanatical activity. The story of his interview with Innocent III., when he first appeared before him with his and Carthusian orders—all branches, plan, is well known. Hurried away as it has been said, from the stem of from the holy presence as a mean

madman-a dream aroused the nontiff to his mistake, and led him to lend all his countenance to a scheme which at first he repelled. While preaching was the characteristic feature of Dominican rule, poverty was intended to be the chief distinction of that of St. Francis; but the two orders gradually merged their distinctive peculiarities, and the members of each gave themselves equally to mendicancy and preaching. The history of these orders, as well as that of Jesuitism, which may be said to be a development of the monastic spirit, but in such a distinct shape as to require separate notice, is inseparably bound up with that of the papacy. Since the Reformation M. cannot be said to have manifested any inherent vitality or power. With the advance of modern civilisation, its highest meaning and only conservative use are gone; and, so far as it still main-tains itself in Europe, it must be held to be an opponent at once of genuine religious life and the advance of an elevated rational cultivation. the more particular history of M., the general reader may be referred to the Church Histories of Neander, Wad-dington, and Milman; and for a special account of its earlier phases, to Burgham's Antiquities, and the learned reader to Helyot's Histoire des Ordres Monastiques (Paris), 1714 and 1792.

Monastir: 1. A fortified scaport of Tunis, on the Gulf of Hammamet, 65 m. S.E. of Tunis; exports olives and oil. Pop. 6000. 2. Or Bitolia, cap. of the vilayet of Monastir, in Servian Macedonia, 136 m. by rail W.N.W. There are exports of of Salonika. grain, tobacco, wool and skins, and manufs. of gold and silver filigree work and carpets. Pop. (estimated)

45,000.

Monboddo, James Burnett, Lord (1714-99), a Scottish judge and meta-Lord physician, practised as a barrister till 1767, when he was made judge in the Court of Session. Among his con-temporaries he had the reputation of an eccentric because he gave learned suppers and rode on horseback after the manner of the ancients, and because in his Origin and Progress of Language (1773), and his Ancient Metaphysics (1779-99), he exposed man's affinity to the orang-outang. thus in a measure anticipating the Darwinian theory. See Peacock's Melincourt, where the idea is ludicrously developed. Boswell describes, in his Tour to the Hebrides, an inter-See Peacock's view between Lord Monboddo and Dr. Johnson.

Monbuttu, a country in Central Africa, inhabited by a negro race of cannibals, visited by Schweinfurth.

Moncalieri, a tn. in the prov. and 5 m. S. of the city of Turin, Piedmont, Italy, on the r. b. of the R. Po. It has a royal palaco, and manufs. of matches and bricks. Pop. 11,561.

Moncarapacho, a tn. in the dist. and 8 m. N.E. of the port of Faro, Algarve, Portugal; wine industry. Pop. 5660.

Algarve, 1 Pop. 5060.

Moncayo, a mountain on the boundaries of Aragon and Castile, Spain, 55 m. W. of Saragossa. Alt. 7600 ft.

Mönch, a famous peak in the Bernese Alps, Switzerland, 3 m. N.E.

of the Jungfrau. Alt. 13,468 ft.
Monchique, a tn. in the dist. and
40 m. W.N.W. of the port of Faro,
Algarve, Portugal. Its hot springs,
called Caldas de Monchique, are effica-

cancar Cantan de Moncinque, arceffica-cious in skin diseases. Pop. 7500.

Monck, Sir Charles Stanley, fourth Viscount (1819-94), first governor-general of Canada, born at Temple-more, Tipperary. He entered parlia-ment in 1852 as member for Ports-He was appointed captaingeneral and governor of Canada and British N. America in 1861. M. was the chief promoter of the federal con-

monck, George, first Duke of Albemarle (1608-70), a British general and admiral, born at Potheridge, Devonshire. He fought at Cadiz (1625), Rh6 (1627). shire. He fought at Cadiz (1623), Rhe (1627). He was a colonel under Charles I, in the Scottish war (1639). In 1644 he was taken prisoner by Fairfax at Nantwich, and imprisoned for two years in the Tower (1644-6).

commander in Scotland, and took Edinburgh in 1659. In 1660 he restored Charles II. As admiral of the fleet in 1664, he won a decisive victory over the Dutch. Lives of M. have been written by Thomas Gumble (1671), Guizot, and Julian Corbett.

Monclova, a tn. in Coahuila, Mexico, 103 m. N.W. of Saltillo by rail; has railway shops. Pop. 15,000.

Moncontour, a vil. in the dept. of Vienne, France, 10 m. S.S.W. of Loudun, where the Huguenots, under Coligni, were defeated by the Duke of Anjou in 1569.

Moncreiff, Sir Wellwood Henry (1750-1827), a Scottish theologian and (1750-1827), a Scottish theologian and author, born in the village of Blackford, Perthshire. He became minister of the church of St. Cuthbert's, Edinburgh, in 1775, and moderator of the General Assembly in 1785. M. was a staunch supporter of the Whig party in the Church of Scotland, and an eloquent and inspiring preacher. He is the author of Discourses on the is the author of Discourses on the Evidence of the Jewish and Christian Revelations (1815), and An Account

of the Life and Writings of John Erskine, D.D. (1818). Moncreiff, James, Baron Moncreiff

Monoreiff, James, Baron Moncreiff of Tulliebole (1811-95), a Scottish lawyer and politician, born in Edinburgh. He was called to the bar in 1833. He carried measures in parliament for the abolition of religious tests in Scottish universities, and for the amendment of the law of entail.

evidence, and bankruptey.
Monorieff, Sir Alexander (1829-1906), a British soldier and inventor, born in Perthshire. He invented in 1868 the 'Monorieff Pit,' or' disappearing system,' a method of mounting the heavy ordnance in coast batteries. A shelter receives the gun after firing, the energy of the recoil being stored and subsequently utilised to carry the gun into firing position when required.

Moneton, a tn. and port of entry, Westmorland co., New Brunswick, Canada, on the Petitoodiac R., 89 m. N.E. of St. John. It is the head-quarters of the Intercolonial Railway. It has cotton and woollen mills, foundries and planing mills. Natural gas and oil wells were found near M. in 1911. Pop. 10,000.

Mond. Ludwig, F.R.S., etc. (1839-1909), a chemist, born at Kassel, Ger-many. Educated at the Universities of Marburg and Heidelberg, where he studied under Bunsen. He came to England in 1862; introduced the process for recovering sulphur from waste products of Leblanc soda process. In partnership with J. T. Brunner (1873) established ammonia-soda process (Solvay) at works in Cheshire, now the largest alkali works in the world. He manufactured chlorine as a byeproduct; producer gas from waste products, recovering ammonia. product; producer gas from waste products, recovering ammonia. Brought out a new process for the manufacture of pure nickel, in conjunction with Lange and Quincke, from nickel carbonyl, also his own discovery. He founded and endowed Davy-Faraday Research Laboratory of Royal Institution, 1906. A portion of his collection of early Italian painters, etc., left to the nation. Published papers in Transactions and Proceedings of the Royal Society, Royal Institution, British Association. Royal Institution, British Association Chemical Society, and Society of Chemical Industry.

Mondonedo, a tn. in the prov. and 30 m. N.N.E. of the city of Lugo, Galicia, Spain. It has a cathedral (13th century). There are marble quarries, and manufs. of cotton and linen fabrics. Pop. 10 619.

linen fabrics. Pop. 10,619.
Mondovi, a tn. in the prov. of Cunco, Piedmont, Italy, 42 m. S. of Turin. Ithada university (1560-1719). There are manufs. of silks, paper, and earthenware. Pop. 19,255.

Mondragone, a com. in the prov. of Caserta, Campania, Italy, 18 m. S.E. of Gaeta. Pop. 6125.

Monemyasia, formerly called Napoli di Malvasia, a tn. in Laconia, Greece, 20 m. N.N. W. of Cape Malia. Here was exported the famous malmsey wine. Pop. 5000.

Monera, a classification of atoms of protoplasm destitute of any structural features. See Protozoa.

Moneses Grandiflora, a pretty perennial plant found only in the N. of Scotland. It bears round radical leaves and a single large fragrant white flower.

Monessen, a tn. in Westmorland co., Pennsylvania, U.S.A., on the Pittsburg and Lake Eric Railroad, 1‡ m. from Charleroi. It has foundries, and manufs, steel and wire-fencing. Pop. (1910) 11.755.

Pop. (1910) 11,755.
Monet, Claude (b. 1840), a French artist, born at Paris. His attempt to analyse light pictorially into its component spectral colours has greatly influenced the post-impressionists. Views of Argenteuil' (1872), 'Cathedrals' (1874 and 1894), 'Le Meules' (1891), and 'Le Bassin des Nymphéas' (1900) are some of his best-known works.

Monetary Unions are agreements between several states for the recognition of a common monetary unit in the interchange of coinage. Thus in 1865 was formed the Latin monetary union between France, Belgium, Italy, Switzerland, and Greece, which established the franc or lira as the common unit. Subsequently Roumania, Servia, and Spain were included in the union. There is a M. U. of the states of Germany, which recognises the mark as the unit. The Scandlinavian union embraces Denmark, Norway, and Sweden, and recognises the krone as the common unit.

Money. The meaning of the term M., its function as a medium of exchange, the substitutes that have been used for it at different times by different nations, and the factors which regulate the value of M., have been treated in the article CURRENCY. This article deals more fully both with the question of how far the term should include instruments of credit and with the functions of M. It is an old controversy, not now by any means settled, whether or no bills of exchange, cheques on deposit accounts, and other credit instruments ought to be included in the category of M. Except in the details of banking business, hardly any one at the present day would restrict the term M. to mere cash or coined M. Most would include bank-notes, i.e. would make the terms M. and currency inter-

changeable. But most English authorities seem against the view that bills of exchange, promissory notes, letters of credit, i.e. 'auxiliary currency,' constitute M. or currency in the proper sense. Professor Sedg-wick would classify, at least, bank deposits as M., and points out (Political Economy) that though coin and bank-notes form a specially im-portant part of 'money-market portant part of 'money-market money,' still, where deposit accounts with banks are part of the developed commercial system of a country, the greater part of such M. must necessarily 'consist of bankers' promises to pay coin on demand, not represented otherwise than by rows of figures in their books. In other words, the aggregate M. in a country at any given time exists for the most part only in the shape of acknowledged liabilities or obligations, and not by any means in a vague Sinbad's vale of gold that in some way or other can be got at by the banker if necessity arises. This is the very mistake Mill seems to make repeatedly, and reference to passages in Book III., chs. xi. and xii. will make it apparent that that great economist thought that coin and paper substitutes therefor made legal tender by government together formed the medium of exchange collected by bankers from individuals and lent again to traders. Professor Sedgwick sums up the controversy by saying that if: (1) The essential function of M. is its use in exchanges and other transfers of wealth 'where the object is to transfer not some particular commodity but command over commodities generally; and (2) we understand by money that which passes freely from owner to owner in final discharge of debts and full payment for commodities; then bankers' debts payable on demand, ranshowever this ferred, are contract 1 wner from to owner hand to I andthe Industry) payimportant ment by notes is not the physical transfer of paper, but the transfer of claims on the banker. Mr. Walker's reasons for excluding credit instruments generally are these: That credit, analogously to barter, limits the field for the operations of M. in an advanced and commercial state, but that although credit effects a mutual cancellation of indebtedness, there remain a vast number of transactions that can only be carried out by the use of M.; in short, that M. proper comes in where

English | and the value of M. within its limited sphere is determined just as it was before credit was introduced. Defore credit was introduced. He includes bank-notes because they do what he calls 'the money-work,' and because they pass freely from hand to hand, 'leaving no trace of their course,' as do bills of exchange, which latter, of course, leave all the signatories, whether indorsers or arrays in danger of lightity in the drawer, in danger of liability in the event of dishonour by the acceptor. The controversy is obviously not susceptible of a dogmatic settlement, but certainly it would seem that Professor Sedgwick is forced to employ considerable subtlety and ingenuity of argument to convince the student of economics that the ordinary trader necessarily accepts bankers' (cheques) as final discharge of his book debts. If this finality be the real test, it seems clear that Mr. Walker's exclusions aptly point the difference between M. and credit. Functions of money.—M.

medium of exchange does away with the necessity for that direct inter-change of goods which would involve the trouble of finding two persons or sets of persons who mutually desired each other's goods. So cumbersome a process could never have existed for long in any civilised society, and the universal acceptance of a desirable medium of exchange came early in the economic history of most nations. The use of a convertible paper currency or bank-notes, however, is comparatively a purely recent development. The universal acceptance of bank-notes as M. required for its fulfilment the evolution of mercantile credit, the inculcation in all men of mutual confidence, and the inter-vention of the legislation with its formal sanction of the substitution of such merely arbitrary symbols for what, prior to the change, had been a medium consisting of something which in itself was of such recognised intrinsic worth that no one in his senses would refuse it. The tardiness of the growth of confidence in banknotes, though issued on the credit of government, is justified if we look to the history of the American 'green-backs' between 1863 and 1880. Daces Detween 1000 and 1000.
These instruments were issued in excess, and caused a general temporary inflation of prices and speculation, with the inevitable consequence of grave social and political evils from the harm to industry as a corollary to the greenback's facevalue getting out of any sort of true relation to the ruling commercial prices. As Mr. Walker points out, this production of bad money is really due to the fact that it is 'not the efficiency of credit is exhausted, the wants of trade, but the exigencies

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of the treasury (that) are apt to de-| measured in terms of each metal shall

of the treasury tunity are apply to the termine the amount of issues, and remain constant. whenever such issues take place in excess of the wants of trade they almost inevitably go from bad to worse (Dict. Polit. Econ., 1906). But it is by no means clear what means can be employed to ensure that the laws of economics rather than fiscal discretion shall determine the size of an issue, even assuming that the former will of necessity supply a precise criterion. Another leading function of M. is to serve as the common denominator of values, which is merely one way of stating that each commodity by the fact that it will readily exchange for coin or bank-notes 'takes it- place on the price-current, high up or low down, according to the demand for it.' Mr. Walker again quarrels with the older economists for their common assumption that M. as a denominator in exchange must of necessity perform the office of measuring values, and he attributes the error to nisleading terminology, especially the phrase measure of value in its application to M.: e.g. Mill postulates as one of the most obvious wants of exchange that of 'a common measure for values of different sorts. Mr. Walker's contention is that 'it is not essentially the office of a denominator in exchange to measure values, but only to express them, as measured,' and that all commodities by being actually exchanged against pieces of paper, like bank-notes, become measured as to their value without regard to the cost of pro-duction of the money itself, and similarly, when the commodities exchange for coin. In short, the value of a commodity depends on supply and demand and, if anything, it is the value of the commodity that measures the value of M. (of whatever kind), and not vice versa. On the controversy whether money has price as well as value, or whether the term 'price' should be reserved to express the value of all other things in terms

of M., Mr. Walker says, and rightly

as it would seem, that the latter pro-position is only true so long as one

article only is used as M. But since

both gold and silver are used in most

countries, have separate sources of

supply, and to some extent fulfil

Coin and Inquiry

..... biolog and the Alechanism of Exchange: Goschen's Foreign Ex-changes: Professor Walker's Money: Money in its Relations to Trade and Industry : and Political Economy.

Moneylender. With certain exceptions any one who acts as a M. must: (a) Register his name and address or addresses; (b) carry on his business only in his registered name and at his registered address or addresses; and (c) supply the horrower on request and on tender of expenses copies of all documents relating to the loan. Non-compliance with these statutory requirements (Moneylenders Act, 1900) renders a M. liable to fine, and, on a second conviction, to imprisonment with hard labour. The exceptions are banks, registered friendly societies (q.v.), pawnbrokers, building societies, insurance offices, and, indeed, any business the principal object of which is not the lending of money. In the popular imagination, the M. is anathema, but a borrower who, not being an infant (see INFANCY), enters into a moneylending transaction with his eyes open, must not expect that he will necessarily get the sympathy of a court of law. The Act of 1900 merely provides that a court may re-open a transaction and relieve the borrower from the necessity of paying more than a certain sum for interest, fines, expenses, premiums, renewals, or other incidental items, where the transaction is ' harsh and unconscionable ' or the interest, etc., excessive having regard to the M.'s risk and all the circumstances of the case. It is, perhaps, hardly necessary to say that a borrower could always count on getting relief or avoiding a trans-action altogether if induced to enter into it by a false or fraudulent mis-statement or dishonest concealment of material facts on the part of the M., and indeed a M. so acting is liable also to criminal proceedings.

Money Wort, or Lysimachia nummularia, a creeping plant (order Primulaceæ) with opposite shiny leaves bearing in the axils cup-

shaped, yellow flowers.

Monfestino, a com. in the prov.
and 20 m. S. of the tn. of Modena,

independent purposes, e.g. in the fashioning of objects of art, there must necessarily be a gold-price of silver and a silver-price of gold. In Pop. 5985. Italv. Monforte de Lémos, a tn. in the prov. and 35 m. S. of the city of Lugo, Galicia, Spain. It has manufs. silver and a silver-price of gold. In this context we see the situation that bimetalli-ts have to meet, and why their endeavour is to extinguish all of linen, soap, and chocolate. Pop. 13,000.

preference for either of these metals, 13,000. at a legally fixed ratio, e.g. 15½ of Monge, Gaspard (1746-1818), a silver to 1 of gold, so that the prices French mathematician and physicist,

founded the Ecole Polytechnique.
As leader of the scientific expedition he accompanied Napoleon I. to

Egypt in 1798. Mongolia ('the country of the Mongols') embraces a vast extent of country in the interior of Asia, between 38° and 53° N. lat., 84° and 124° E. long. Its length from E. to W. exceeds 1700 m. and its width from N. to S. 1700 m. and its width from N. to S. 1000 m. Area between 1,200,000 and 1,300,000 sq. m. Bounded N. by Siberia, E. by Manchuria, S. by Chine Seinterference. Pop. 2,600,000. Mongolo-Tartar, see Ural-Alial Mongolo-Tartar, see Ural-Alial Mongolo, The, a people of Central Asia, living chieffy in Mongolia, who proper, and W. by Kansu. The central portion is occupied by the Great Gobi, a vast tract of sand, small it was his genius which for a time stones, and sparse vegetation. The built up the fabric of a great Mongolo-Tartar, see Ural-Alial Mongolo-Tartar, country to the S.E. of the elevated and terminate

mountain range, which near the Hoang-ho, runs '... then turns at right angles to the E., whence under the name of the Inshan Mts. it extends for some 600 m. until Mts. it extends for some 600 m. until it turns N. again. The district S. of the Inshan Mts. contains fertile valleys, but farther W., where it is surrounded by the great northern bend of the Hoang-ho, it is again either arid like the Gobi or only fit for pasture ground. The eastern parts of the strongling nearly to the Vellow Sec. extending nearly to the Yellow Sea, contains to the S. of the Leah-ho numerous meadows of rich grass, and agriculture was early introduced there by the Chinese. The slopes of the Kingkhan Mts., a spur of which extends in a south-easterly direction to the Hoang-hai, are well watered and in the southern part overgrown with pine, fir, oak, lime, and walnut trees. North-western M, is also well watered but poorly wooded; near the boundary between M. and Siberia the country rises into the Altai mountain chain. Rain is rare except near the great mountain ranges. The wealth of the Mongols consists in their great herds of horses and sheep and, in the hilly tracts, of cattle. From time immemorial the various Mongolian tribes have lived a nomadic life and subsisted on the produce of their herds. The Mongols proper volun-tarily submitted to China to avoid destruction in their unsuccessful war with the Kalmucks in 1688, which cession has resulted in some development of resources and a transport trade with China and Siberia along ment of resources and a transport and no sconer completed his Russian trade with China and Siberia along conquests than he was plunged into the great caravan routes, the chief of which run from Kalghan and Kweihwacheng to Maimaichin viù Urga, and from Kalghan again through Kobdo to W. Siberia. Railways are projected from Urga to Kiakhta (170 m.) and to Kalghan (530 m.).

born at Beaune. He invented the Urga is the chief centre of population method of descriptive geometry and and commerce, and here dwells the wrote a treatise on the subject Kutukhta Lama, who is the third (Géométrie Descriptive). In 1794 he highest pontiff of the Buddhists and Kutukhta Lama, who is the third highest pontiff of the Buddhists and the spiritual ruler of the Mongols. Under the provisional republican government of China (1912), a separate department was formed for the administration of M. and Tibet. The Russo-Mongolian agreement of 1912 was the result of a series of revolutions consequent on excessive Chinese interference. Pop. 2,600,000.

At his death he divided

between his sons, Ogotai country between the ke Baikal; Jagatai, the country between Bokhara, the Irtish and Gobi; Tuli, the land S. of the Baikal; and his grandsons Orda and Batu. Khwarezm, the region drained by the Jaxartes, Ural, and Oxus. Ogotai, with the help of Tuli, became emperor of China and put an end to the Kin and Sung dynasties (1234). Batu, after occupying Russia, seized the Hungarian cities of Pesth and Gran (1241), and in 1236 Mongolian troops overran Georgia and Armenia. Hulagu, Tuli's son, defeated the Persian assassins, crushed the caliphate of Bagdad, and took possession of Syria, together with Aleppo and Damascus, whilst the great Kublai Khan, another of Tuli's sons, established a line of emperors in China, which lasted from about 1275 to the final expulsion of his race in 1368. Meanwhile, the M., or, to give them a more generic name, the Tartars, were establishing (about the year 1224) the Kipchak empire in South-Eastern Russia under Batu. The khanates of Astrakhan, the Crimea, and Kazan, and in Turkestan the khanates of Bokhara and Samarcand were all held by M. Though the phate of Bagdad, and took possession were all held by M. T power of the Golden Though the Horde Western Kipchaks waned, that of western kipenaks waned, that of the White Horde or Eastern Kip-chaks—the inheritance of Orda, Batu's brother—grew apace and in 1378 Toktanish, an Eastern Kipchak, became ruler of both hordes. But he had no sooner completed his Russian

est species is the Egyptian Ichneu-The common Indian M. is tawny or grey in colour, and about 17 in. long, excluding the tail, which is about 14 in. long. It is very voracious, and fights and kills even large and poisonous snakes with the utmost agility and daring, and for this service has been introduced into the W. Indies and other countries. readily tamed and makes a delightful though mischievous pet. Observers do not confirm the popular notion that the M. visits certain plants to counteract the effects of poisonous snake bites, which indeed are as fatal to it as to other animals.

Monica (332-87) was the mother of St. Augustine. She was the wife of Patricius, a pagan citizen of Tagaste, and converted both her husband and

son to Christianity.

Monifieth, a par. of Forfarshire, Scotland, on the Firth of Tay, 6 m. E. by N. of Dundee; has iron-foundries, and manufs. jute and machinery. Pop. (1911) 13,146.

Moniquira, a tn. of Boyaca, Co-lombia, on the Moniquira R., 100 m. N.N.E. of Bogota, in a rich copper-mining dist. Pop. 12,000.

Monism, a system in philosophy which attempts to reduce the universe to a single principle. M. is thus directly opposed to dualism or monadism (pluralism). M. tends to reduce the universe either to a material principle, thus developing into a form of materialism, or into a mental principle, thus developing into idealism. Sometimes, however, a reconciliation between the dualism of matter and mind is sought, and these opposing principles are regarded as complementary aspects of a single substance. The early Greek Ionian philosophers were Monists, postulating the several elements as the material cause. Thales took water as the first principle; Anaximander, cloud; Anaximenes, air; and Heracleitus, fire. A great advance was made by the Eleatic philosopher, Parmenides, who invented the epigrammatic formulathe ent (or) is, the nonent (un or) is not,' thus distinguishing between the One which is, and the Many which become and are not. This theory was supported by Zeno, who disproved plurality by his paradoxes of space, time, and number. In the Stoic schools of Greek philosophy, M. was a fundamental theory. M. has been conspicuous in several modern philosophic systems. Spinoza postulated a single underlying substance of which matter and mind in equipoise the two aspects. The M. of

especially India and Africa. The larg- modern philosopher of the idealistic school. He explains matter, individuality, sensation, and will as forms of thought. Schopenhauer and von Hartmann merge all finite existence in the cosmic will.

Moniteur, Le, a daily French paper. It was established in 1789 as the Gazette nationale ou le Moniteur universel by Panckoucke. Under Napoleon it became the official organ of the government—a position which it held till 1869, when it was superseded by the Journal officiel. In 1875 it reflected the aims of MacMahon's government, and it was afterwards Orleanist and Conservative in ten-

dency. Monitor, the name for a number of lizards which include some of the largest forms. They are widely distributed throughout the eastern hemisphere, and their habitat varies from dry sandy spots far away from the water to the marshy banks of rivers. The Nile Monitor (Varanus niloticus) is about 6 ft. long, with a long head and small rounded nostrils. An even larger species is the Ocellated M. of China and Siam. It preys on birds and smaller lizards, and if at-

tacked, defends itself fiercely. Monitor, a famous American battleship, built by Ericsson, which on Mar. 9, 1862, defeated the formidable Merringe in Hampton roads. The essential and original feature was a circular turret, protected with 8 in. of iron, and revolving by steam on a central spindle. Two 11-in. smooth-

navy to the Royal Sovereign, etc. The Monitor sank in a hurricane off Cape Hatteras.

Monk, see Monasticism, Monas TERY.

see Monck.

Monk, George, Duke of Albemarie,

Monk, Maria (c. 1817-50), a woman of bad character who published Awful Disclosures of Maria Monk in 1836 in New York, in which she alleged that she had escaped from the Montreal nunnery of the Hotel Dicu. The book had a huge sale. She was eventually exposed and her story proved to be false.

Monk-Bretton, a par. and tn. in the W. Riding of Yorkshire, England, 2 m. N.E. of Barnsley; has remains of a Cluniae priory, founded in 1157. Pop. (1911) 4783.

Monkey, an unscientific name usu-ally applied to primates excluding man, the anthropoid apes, the marmosets, and also, as a rule, the ba-boons. Ms. are arboreal in habit, and Haeckel is essentially materialistic, are rarely found away from the Hegel is the most distinguished warmer parts of Africa, Asia, and

difference between those of the Old World and those of the New World. An important distinction is in the division between the nostrils, which is invariably broad in New World Ms., while the nostrils open almost side-ways. In the Old World Ms. the division is thin and the openings of the nostrils tend downwards. No New World Ms. have cheek-pouches, and the thumbs differ less from the other fingers; but of Old World Ms. some have cheek-pouches, and others are without them. Most have a laryngeal or air pouch, and these are rare in the American genera. But in many of these prehensile tails are highly specause prehensile tails are highly spe-cialised, though in some the tails are short or feeble. All Old World Ms. have the ischial callosities or pads, where the animal sits; these are al-ways absent from the New World Ms. Monkey Puzzle (Araucaria imbri-catar), a hardy evergreen confer, native of Chile, and varying from a few feet to 150 ft. in height. There is a variety with golden-tinted foliage.

variety with golden-tinted foliage.

Monkey-wrench, a screw-key spanner which has a movable jaw. adjustable by a screw or wedge to the exact size of the nut it is desired to turn.

Monk-fish, see ANGEL-FISH. Monkhouse, William Cosmo (1840-Monkhouse, Whilam Cosmo (1840)-1901), an English poet and art critic, born in London. His working life was spent in the offices of the Board of Trade, where he rose to assistant-secretary in the financial department. His poems include Corn and Poppies, 1890; the Dead March, and The Christ upon the Hill, 1895. As an art critic his independence is established critic his independence is established by his Life of Turner, 1879; The Italiaz Pre-Raphaelites, 1887; Leigh Hunt, 1887, and British Contemporary Artish; 1899.

Morkland, New and Old, two adjoining parishes in N.E. Lanarkshire, Scotland, 1½ m. N.N.W. of Airdrie, with coal and iron mines. Pop. (1911) (Old N.) 61,029, (New M.) 38,116.

Mork Seal (Monachus albiventer), a true seal. common in the Mediter.

a true seal, common in the Mediter-ranean and on account of its tractability s easily trained to perform tricks.

Monlshood, see Aconitum.

Monistown, a par. and vil. in the co. anc 7 m. S.E. of the city of Cork, ol Cork Harbour, is a popular sea-batling resort. Pop. (1911) 2200.

Monkswell, Robert Porrett Collier, first Biron (1817-86), an English judge, vas called to the bar in 1843. In 1852 he was returned to parlia-ment as a liberal by Plymouth, his native ety. Created attorney-general

America. There are many points of later was appointed under Gladstone to the judicial committee of the privy conneil. He was created a baron in 1885.

Monkwearmouth, a par, in Durham co., England, partly in the borough of Sunderland.

Monmouth: 1. A municipal and (in conjunction with Newport and Usk), parl. bor. and co. tn. of Mon-mouthshire, England, at the con-fluence of the Monnow and the Vyc, 17 m. S. of Hereford. It has smelting 17 m. S. of Herelofd. It has smelting and tin-plate works. Pop. (1911) 5269. 2. A city and the co. seat of Warren co., Illinois, U.S.A., 27 m. E.N.E. of Burlington (Iowa); has manufs. of ploughs, pottery, soap, and cigars. It is the centre of a coalmining and horse-breeding district. Pop. (1910) 9128.

Mornouth a British armound

Monmouth, a British armoured which was cruiser, launched Glasgow in 1901. It has a length of 440 ft., a displacement of 9800 tons.

and a speed of 221 knots.

Monmouth, James Scott, Duke of (1649-85), a leader of a rebellion against James II., was the natural son of Charles II., or probably Colonel Robert Sidney, by Lucy Walters. The king, loved the boy, and put him in the hands of Lord Crofts, and afterwards of the queen-dowager. In 1663 he was made Duke of Monmouth, and two years later, on his marriage with the wealthy Scottish heiress, Anne of Buccleuch, was granted the dukedom also of Buccleuch. In 1673 he became captain-general of the forces. His captain-general of the forces. His beauty and engaging manner, his clemency towards the Covenanters at Bothwell Bridge (1679), his almost royal progresses through the W. and N.W. of England, and above all his Protestantism, a point in his favour of which Shaftesbury made full use, secured him a wide popularity. Yet when, yielding to Argyll's persuasion, he landed at Lyme Regis to raise an insurrection against James II.. his insurrection against James II., his appeal met with faint response. His undisciplined forces were hopelessly routed at Sedgmoor (1685), and nine days later he was beheaded (in a bungling manner) on Tower Hill.

Monmouth Beach, a summer resort of Monmouth co., New Jersey, U.S.A., on the Atlantic coast, 3 m. N. of

Long Branch.

Monmouthshire, a maritime English co. lying on the Welsh border with a coast-line of 22 m. along the estuary of the Severn and that part of the Bristol Channel that lies between the Wye and the Rumney. The coast is exposed to remarkably ment as a liberal by Plymouth, his high spring tides, which rush up the native etc. Created attorney-general Severn in a 'bore' from the Bristol in 1863, he successfully engineered a Channel, rising at Chepstow somebankruptey bill in 1869, and two years times to 60 ft. The southern part

E. and W. of the Usk comprises the Caldecot and Wentloog levels, which are protected from the sea by sea-N. of the Caldecot Level, between the Usk and Wye, the surface is undulating, rising here and there into bold bluffs and varied by knolls and which have rendered county famous for its scenery, set off as it is by mountains to the N. and W., primitive churches, ruins of old as Chepstow,

castles, and rins, such as Tintern Abbey and the Cistercian abbey at Llanthony. About 4 m. from Abergavenny is the remarkable peaked mountain called Pen-y-Val or Sugar Loaf (1856 ft.). Chief rivers: Wye, Usk, Rumney, Ebbw, Avon-Llwyd, and Munmow, the two first being famous for salmon and trout fishing. The Crumlin Canal branches from the canal connecting Newport with Brecon, at a point between Newport and Malpas, and skirts the Ebbw to Crumlin. The county is rich in coal, and mining is the chief in-There are numerous iron dustry. works, and sively, both

plentiful in the vales of the Usk and Wye and in the N. and E. Newport, the chief port, is connected by canals with the mining centres. M. is divided into six hundreds and three parliamentary divisions, each returning one member. Area 618 sq. m. Pop. (1911) 414,730.

Monoceros, the Unicorn, a constellation to the S. of Gemini. Meridional centre, R.A.7 h.0 m.; decl. -3°. In the Milky the nal

contair stars;

for use in t

(triple): 11, quadruple. H. W., algori variable; per. 1.9 d.

Monochætum, a genus of ever-

green flowering shrubs (order Melastomaceæ) bearing large panicles of rose, red, mauve, or purple flowers.

Monochlamydeæ, a sub-class of Dicotyledons or exogenous flowering plants characterised by the absence of the corolla from the perianth, though this feature occurs in numerous other plants, e.g. marsh marigold. If the perianth is complete, consisting of both calyx and corolla, the flower is dichlamydeous, and if both are absent, as in the common ash, it is achlamydeous.

Monochord, an appliance invented by Pythagoras for studying musical intervals by means of a movable bridge under a single string stretched over a sound-board by a weight. From Monœcious, a term given tet plants it the musical instrument of the same (e.g. hazel) on which the statement of the same and carpellate flowers are borne

was evolved. The 'nun's fiddle 'was also derived; and the clavichord was an application of the same principle, manipulated by a keyboard.

Monoclinal Strata are strata which from a horizontal or gently inclined position suddenly bend abruptly and then immediately resume their pre-vious disposition. The most notable English example of such is in the Isle of Wight, but the structure is greatly developed in the western states of America.

Monocotyledon, a plant with one cotyledon or seed leaf (e.g. wheat), as distinguished from a Dicotyledon (e.g. bean). This distinction is the main basis of two great divisions of the Angiosperms, the group which comprises the majority of all flowering plants. In the M. the radicle or rudimentary leaf usually remains undeveloped, but throws out roots from its crown. In the Didotyledon, it usually elongates and forms a primary leaf. The stem of Ms. has no central pith or separ

of the periar as a rule, th recognised

leaves are parallel veined except in a very few cases, notably the black bryony, arum, and herb-Paris. Ms. are separated into three malin divisions: (1) ranged on atly enclosed by m): (2) Petaloidee, with petaloid pterianth (e.g. lily or daffodil); (3) Glurnifere, perianth absent and flowers before in

spikelets in the axils of scales or

spikelets in the axils of scales or glumes (e.g. sedges or grasses).

orn in Copenia at Paris, and founded a Protestant church in Naples, of which he was paster until he went to Lyc as in 1827. He was professor in the theological college of Montauban in 1836, whence he removed to Paris in 1847 to preach at the Oratorie. He published various volumes of serrions, one of which, La Crédulité de l'incrédule, appeared in 1844.

crédule, appeared in 1844. Monod, Gabriel (b. 1844), a H rench historian, born at Havre. Studied at Havre and Paris, and atterwards visited Italy and Germany for research work. In 1868 he returned to France, and was appointed director of the Ecole des Hautes Etudies, and in 1880 entered the Ecole Normale, where he become professor, a nost where he became professor, which he held till 1904. Founded the Revue Historique (q.v.) in 1876. Monodon-Monoceros (Sea Urnicorn),

see NARWHAL.

Monogenism, the generally accepted theory in ethnology (q.v.) which regards man as having sprung from one primary form, as opposed to polygenistic views. Monogenists may be divided into three schools: (1) Adamilic, which accepts the Mosaic doctrine literally, with a measure of evolution to explain the existing varieties; (2) Rational, which applies evolution and biological laws generally to man as to other organisms; and (3) Intermediate, which tries to harmonise the first two.

Monogram (Gk. µovos, sole, and γράμμα, a letter), a cipher or character formed by an interlacing of letters and intended as an abbreviation of a name. Ms. were not uncommon on Greek and Roman coins, and also appear on A. S. coins, especially those of King Alfred, and upon seals. In later times Ms. were often used by printers and engravers on the title pages of books.

Monograph, a term applied to the exhaustive and detailed treatment of a single portion or branch of any art or science. The word is limited somewhat to books of moderate dimension.

Monomania, a form of insanity in which the mind is diseased in one faculty or associated faculties; term mania refers to a more widely spread infirmity. M. may be classed: of fear, pride, vanity, suspicion, kleptomania (q.v.), dipsomania (q.v.), etc. The other faculties of the mind generally appear healthy, and the disease may only show itself occasionally, or in certain circumstances, or probably only at some period of life. It does not show the profound depression of melancholia, though it often follows on that form of mania; it is probably a settled form, and is seldom cured. The sufferer may suffer little in physical health, but Ms. of the same kind are generally accompanied by the same physical structural fault. disease of the heart is associated with M. of fear of death; that of pride and ambition with general paralysis accompanying mental infirmity; that of suspicion with cancer and malignant tumours.

Monongahela: 1. A riv. of U.S.A., in Virginia and Pennsylvania. It is a rib. of the Allegheny, which it joins at Pittsburg to form the Ohio R., and is navigable as far as Morgantown. ength 300 m. 2. A city on the monongahela R., in Washington co., unsylvania, U.S.A., 23 m. S. of it burg. It lies in a fertile region in coal, and the mining of coal is in coal, and the mining of coal is

rincipal industry. Pop. (1910) 🧘 🛫 nophysites, a heresy which arose

separately, as distinct from dicecious in the 5th century as a reaction plants, on which the flowers are entirely of one sex or of the other. Its effect was to deny the humanity of Jesus. It was anothematised at the Council of Chalcedon (451), but the decisions caused a great schism. Nearly the whole of Egypt refused to accept the decisions of Chalcedon, and has remained heretical to the present time.

Monoplane, see AERONAUTICS. Monopoli, a tn. in the prov. and 25 m. S.E. of the city of Bari, Italy, on the Adriatic. It has a cathedral and a fortress built in 1552. It exports wine and olive oil, and manufs, woollen and cotton goods. Pop. 22,545.

Monopolies. The term M. literally means single or sole selling, and is so used in Aristotle's Politica, where a monopolist signified one who bought up the whole of a commodity so as to be the sole holder of it, and have the power of selling it at his own price. In this specialised sense it is clearly the same thing as a modern trust or combination to 'corner' an article. This is the root-principle of all M. at all periods, though it may not be in accordance with the precision of economic language to speak of the owner of urban rents as being in the enjoyment of the sole right to sell tenancies, or a railway company of the exclusive right to sell transit or travelling facilities. Again, though the effect of all M. is the same in point of exclusive right of commercial dealing, modern writers always distinguish between natural and artificial or legal M., a distinction detailed below.

Most ancient and civilised legal systems have endeavoured in way or another, however ineffectu-ally, to put some kind of a veto on M., e.g. the code of Zeno punished the monopolist by confiscating his goods and sending him into perpetual exile. In England legislation against M. goes back to the reign of Elizabeth, and so great was the abuse of the royal power of granting M. that in 1639, quarrels between parliament after and the king, they were finally abolished by statute. The problem in England was always aggravated by the conflict between public utility and the ancient prerogative of the crown (see Crown) to regulate all matters of trade. The privileges and organize rights of trade granted for exclusive rights of trade granted for a pecuniary consideration to merchants by the Norman kings, and abused by later monarchs (especially the Stuarts, who used them as convenient levers of political favouritism), furnish the most obvious example of the artificial or legal M., or M. which does not arise from the free play the artificial or legal the free play does not arise from the free play does not arise forces. It was against

England was always directed, but with the advance in social ideas it has become increasingly clearer that the evils of natural M.-i.e. where a variety of circumstances of economic variety of circumstances of economic significance combines to nullify the ordinary effects of competition, and to concentrate exclusive rights in the hands of the few—are hardly less apparent, with the result that modern Liberal legislation has been active in securing, or endeavouring to secure, M. values to the community partly by facilitating the municipalisation of certain activities (see MUNICIPAL TRADE), and partly by expropriation TRADE), and partly by expropriation coupled with compensation. Queen coupled with compensation. Queen Elizabeth frequently granted M. to her favourites for dealing in the universal necessaries of life, e.g. coal, salt, vinegar, and leather; but it was not till the last year of her reign that a bill, introduced by Lawrence Hyde, received such great support from an otherwise pusillanimous House the otherwise pusillanimous House that the queen was obliged to yield. Yet notwithstanding her concessions, many M. still existed or were newly many M. still existed or were newly granted. Prior to these concessions the matter came before the courts (The Case of Monopolies), which were disposed to declare M. void on the common law ground that they were in restraint of trade, for in the above case (royal grant of sole right to sell playing cards) it was said that every M. had three inseparable incidents—the raising of the price, the deterioration of the commodity, and the impoverishment of workers and others. The only exception which the courts were inclined to make was in favour of the royal grant of letters patent for the exclusive privilege of trading in things introduced or invented by in things introduced or invented by the grantee himself, or where the grant was apparently beneficial to the community. The Act of 1622, however, declared all M. void except those granted by letters patent for the sole working, for fourteen years, of any new manufacture to the 'true and first inventor thereof,' and this statutory provision is still the foundation of the present law as to patents for inventions. Finally, in 1639, as a result of the ineffectiveness of the above Act to check the royal grant of M. to corporations, all legal M. of Al. to corporations, all legal M. (except patents for inventions) were abolished. Analogous to patents for inventions is the M. conferred by copyright, a right which has recently been considerably strengthened (see Copyright) in favour of authors, and, as some think, to the detriment of the community. the community If in the past England has not been

immune from the evils of legal instance, an English High Court M., she has at least been free from judgo gets high remuneration, in-

artificial M. that past legislation in one notoriously oppressive form of artificial M.—that of the revenue-farmers or middle-men to whom in artincial M.—unat of the revenue-farmers or middle-men to whom in various countries at various periods was leased, in return for a fixed sum, the right of collecting for their own use certain of the ordinary taxes. The system prevailed in ancient Rome, with the result that the Roman capitalists who obtained the M. of levying both the domain revenues and the indirect taxes gained most extensive advantages at the expense of the general body of taxpayers. Later, when the province of Asia fell to the Romans, C. Gracchus enacted that the most excribitant direct and indirect taxes should be put up to auction for that province as a whole, the consequence being the rise of an association of capitalists of colossal magnitude (Mommsen, Hist. of Rome). In its way no less oppressive was the magnitude (Monunsen, Hist. of Rome). In its way no less oppressive was the M. under the old monarchical régime of France, by which the 'farmersgeneral' obtained from the government, in return for a fixed payment into the treasury, the right of collecting certain branches of the revenue, After the various farmersgeneral had combined into a united association they became such an intolerable source of oppression that it is not to be wondered at that the revolutionaries not only abolished them once and for all in 1794, but executed some thirty of them.

Natural M. are divided into

them once and for all in 1794, but executed some thirty of them.

Natural M. are divided into three classes by Professor Hobhouse (Liberalism): (1) Land M.; (2) M. value from industries in which competition is inapplicable, e.g. gas and water supply, tramway service, etc.; and (3) state M., e.g. the licence to deal in intoxicating liquors (see Licensing Laws). To this classification might be added those partial M. noticed by Mill, where a kind of M. price in the shape of 'superiority of reward' is obtained by workers in trades or professions where an uncommon degree of integrity is requisite, or a high degree of confidence reposed in the workers, e.g. goldsmiths, physicians, lawyers, etc. But though academically in accordance with the principle of natural M., this last class of M. merits no further notice, because, obviously, there is no limit to the enumeration of those avocations or trades where a partial or quasi-M. is confessed by certain matters peculiar to the occupation itself. Mill's assertion that the superiority of reward' is not the consequence of competition but of its absence' is only a paradoxical way of saying that the demand is great but the supply small. To take another saying that the demand is great but the supply small. To take another

spires public confidence, and has sphere of municipal trade (q.v.) usually attained his elevation to the bench only after a strenuous forensic anti-municipal trader finds himself career; but though there are few perconfronted by the dilemma of the sons in proportion to population who are qualified to assume the dignity, the competition among the few for the occasional vacancies is of the very keenest.

In regard to land M., it has been shown above (see LIBERALISM) that no theory of liberty could be satisfied with the existing system under which property is held, and the land years ago offered the most obvious point of attack to the Cobdenites. The necessarily limited supply of land in a highly civilised community enables the owner to exact his own price regardless of the absence of any effort of his own to make the land valuable (see also INCREMENT VALUE). Competition truly fails where there is no check upon the owner apart from the limitation of demand. Over and above the average wages and profits he 'can extract from the necessities of others a surplus, to which the name of economic rent is given.' (As to how far land nationalisers have gone in politics to mitigate this inequality, see Increment Value, Land, Land Laws, Land Taxes, Liberalism.) Professor Hobhouse, as an apologist of latter-day Liberalism, which in some of its measures is indistinguishable from some of the most definitely formulated proposals of Socialists, ingeniously argues from such positions as that (1) competition in gas and water supply and tramway services is wasteful sible, and t the remedy (is a more

tion of licensed premises ought to be so arranged that the M. value returns so arranged that the M. value returns to the community; that an individualism which so 'works in harmony with Socialism' is still thoroughly consistent with itself. But it would seem that once the principle is admitted of analysing value into that which is made by the community and that which is the product of individual effect, it can have no other logical consequence than that of comprehending all sneedes of property what hending all species of property what-soever, and further of assigning to the individual's efforts their only true economic value, which, without the general co-operation of society, is next to nothing. But however serious a blow modern Liberalism or tentative Socialistic legislation has dealt to private M. and individualism, a still

public contr

'trust,' or huge combination of capital, whether national in operation or international, which is designed to secure control of a trade or manufacture with the double object of economy in production and arbitrary profits. In this context the apologists of latter-day Liberalism may be justified in advocating a tentative Socialism in the shape of state or municipal control as something far less injurious to orthodox individualism than the trust, which has been clearly demonstrated in the U.S.A. to be fatal to individualism; and it seems an inadequate argument to say that the gross abuses of power which have characterised the American trusts are not possible in the United Kingdom. The very justifiable com-mentary on this dilemma is that if the trend of public opinion is in favour of controlling trusts and fostering the municipal M., it is at least probable that the public gains by the application of profits to public uses.

Monor, a tn. of Hungary, in the co. and 20 m. S.E. of the city of Budapest. Pop. 9000.

Mono Railway, see Railways.
Monotheism (Gk. μόνος, only, and θεός, God), the belief in one only God as the ruler of the universe. Whereas Deism has come to mean a belief in one God accompanied by a rejection not so with

associated

hold that velation teaches that primitive man The Jewish and as monotheistic. ohammedan religions are strictly so. Anti-Trinitarians insist that the doctrine of the Trinity prevents Christi-

anity from being monotheistic, though

the creeds lay much stress on M. Monotheletes, or Monothelites (Gk. μονοθεληται), holders of a heresy which arose in the 6th century and which was condemned at the Sixth General Council. The M. taught that Christ had but one will, whereas the Catholics held that though Christ's personality was one, yet He had two wills, which were, however, always in perfect harmony. For full particulars of the conflicts of the 7th century,

see article 'Monothelitism' in The

Catholic Encyclopædia Monotremata, an order or sub-class

of mammals, and containing only three species, the *Ornithorhynchus* and the *Echidna* and *Præchidna*, spiny more scrious blow, in the opinion of ant-eaters. The young are hatched anti-Socialists, is threatened by the from eggs and are fed on milk secreted mere substitution of a state M., and notby mamme, but on a bare patch of nowhere more obviously than in the the mother's skin. They have features

and fruit, and manuis. woollen and cotton goods, leather, soap, spirits. Pop. 11,000.

Monreale, a city in the prov. and 5 m.S.W. of the city of Palermo, Sicily. It is an archiepiscopal see, and its fine cathedral dates from the 12th century. It has a large trade in corn, oil. fruit, The massacre known ian Vespers' (1282) and almonds. Sicilian the began on the road between Monreale

and Palermo. Pop. 24,000. Monro, Alexander (1697-1767), Scottish physician and founder of the medical school of Edinburgh, born in London, and studied Loyden under Boerhaave. In 1720 he was appointed professor of ana-tomy at Edinburgers. tomy at Edinburgh University, a post in which his son, Alexander Monro (1733-1817), succeeded him

in 1759.

in 1759.
Monroe: 1. A city and the cap. of Ouachita par., Louisiana, U.S.A., on the Ouachita R., 76 m. W. of Vicksburg, Miss. It has a large trade in cotton, and manufs. cotton compresses, cotton-seed oil, molasses, and bricks. Pop. (1910) 10,209. 2 A presses, cotton-seed ou, moiasses, and bricks. Pop. (1910) 10,209. 2. A city and co. seat of Monroe co., Michigan, U.S.A., on the Raisin R., 2 m. from Lake Erie and 35 m. S.S.W. of Detroit. It has flour, lumber, and paper mills, canning factories, furniture and box factories, and averaging properties properties. and extensive nurseries. Pop. (1910) Green co., Wisconsin, U.S.A., 37 m. S.W. of Madison; has manufs. of

dairy products, lumber, and iron goods. Pop. (1910) 4269

Monroe, James (1758-1831), fifth president of the U.S.A., son of a carpenter and mason, was born in Westmoreland co., Virginia. He was educated at the college of Williamsburg, but left it on the outbreak of the revolutionary war to join Washing-ton's army. He had hardly finished his education when, in 1776, he entered, as a cadet, the regiment commanded by Colonel Mercer. Soon afterwards he joined Washington's army as lieutenaut, took part in the engagements at Harlem Heights, White Plains, and the attack on Trenton, where he was wounded. He then became a captain of infantry and aide-de-camp of Lord Stirling (1777-78), fighting at Brandywine, Germantown, and Monmouth. He then temporarily abandoned a mili-

which seem to make them intermediate between reptiles and the higher mammals (see MAMMAIS).

Monotype, see Type-setting Machines.

Monovar, a tn. in the prov. and in 18 m. N.W. of the tn. of Alicante, Spain. It has a large trade in wine and first and manufactured and latter three years he retired to the After three years he retired to the country for a time, where he married the daughter of Lawrence Kort-wright. In 1790 he became a senator of the U.S.A., and four years later was sent by Washington to Paris as American plenipotentiary. His position there was a delicate one, inasmuch as American relations were strained with both England and France after the fall of Robespierre. The rupture became complete under the presidency of John Adams, and M., who was accused of too much partiality for the Directoire, was recalled, and censured for not having sufficiently explained and defended the new treaty signed by the U.S.A. with England. But the publication by him of the whole of his correspondby him of the whole of his correspondence resulted in the confusion of Adams and the Federalist party, and undoubtedly influenced the election of Jefferson as president. In 1799 he was made governor of Virginia. In 1803 he was sent by Jefferson as envoy extraordinary to negotiate the purchase of Louisiana. The next four years he was at London, where he replaced King, and in Spain, but the replaced King, and in Spain, but the commercial treaty which he negotiated with Pinckey as to Spanish trade was not ratified by Jefferson because it did not contain a clause against impressment (q.v.). In 1808 he returned to the United States, and became in 1811 Secretary of State for Varreign 4 ffoirs, retaining this post Foreign Affairs, retaining this post till March 1817, where he became president in place of Madison. His affability and moderation rendered him highly popular with both Democrat and Federal, and in 1820 he only lost one vote. The chief event of his administration was the controversy over the admission of Missouri to the States at a time when the question of slavery agitated the whole country. In 1822 M. declared in his annual message that the independence of the Hispano-American republics, which for several years had been endeavouring to shake off the European yoke, must be maintained at any price, a declaration which has since become cele-brated as the 'Monroe doctrine' (q.v.). He retired into private life in

> He him to retire in 1829. Monroe Doctrine, a doctrine in the

tary career for law studies under the foreign policy of the U.S.A. which

may not unjustly be summed up in coffee, palm-oil and palm-nuts, dyethe vernacular 'Hands off America.' woods, and rubber. Pop. 8000. This famous doctrine was thus

are interests of the U.S.A. involved that the American continents, by the free and independent condition which they have assumed and maintain, are henceforth not to be considered as subjects for colonisation by any European power. the existing colonies With and dependencies of any European power we have not interfered, and we shall not interfere, but with the governments who have declared their independence and maintained it, and whose independence we have on great consideration and on just principle acknowledged, we could not view any interposition for the purpose of oppressing them, or controlling in any other manner their destiny, by any European power in any other light than as the manifestation of an unfriendly disposition towards the U.S.A.' How far this doctrine is an integral part of international law is difficult to say, but it has unquestionably proved a most powerful weapon for securing the sovereign international status of the different American peoples. The balance of opinion outside America (but including the opinion of Wheaton) is against the inclusion of the doctrine as a principle of international law, and the question is further complicated by the lengths to which contents the lengths to which subsequent American governments have at-tempted to carry the doctrine, e.g. in the celebrated controversy over boundary between Venezuela and British Guiana, which was finally settled by arbitration, though not until after a presidential threat from the mouth of Mr. Cleveland. Mr. F. E. Smith (International Law) says that the broad question of the right of the U.S.A. to dictate to European nations in their relations with S. American states remained unsettled, There is no and it still remains so. doubt its final establishment in the more extended sense would, in Mr. Smith's words, destroy the doctrine of equality of sovereign states, and spell the hegemony of the U.S.A. over the whole of the American continent. It is to be observed, too, that the doctrine has never been directly affirmed by either the Senate or the House of Representatives. See F. E. Smith's International Law (Dent & Sons), 1911; w.

Mons (Flem. Bergen), cap. of the prov. of Hainault, Belgium, on the Trouille, 35 m. S.W. of Brussels. It lies in the centre of the rich coalmining district of Borinago, and manufs. woollen and cotton goods, in the rich coalmining woollen and cotton goods. iron products, sugar, and glass. M. stands on the site of a Roman camp. Pop. 27,147.

Monselice, a com. of Italy, on the canal of M., 13 m. S.W. of Padua; has manufs. of textiles. Pop. 11,751.

Monserrat, or Montserrat, a mountain mass in the prov. of, and 23 m. N.W. of the city of Barcelona, Spain, on the r. b. of the Llobregat. Its highest point is 4070 ft. At a height of 2910 ft. on the E. side is the Benedictine monastery, dating from the 9th century, and containing a famous image of the Virgin.

Monsignore, a title of honour given to prelates in the Roman Catholic

Monser, C- Pi---- 1 1834-1909), a . born at Chart He entered 1856. and was appointed attaché at Paris. In 1869 he was consul in the Azores; from 1871-78 consul-general at Buda-pest; from 1879-84 minister to Uru-guay; in 1884 envoy to Buenos Ayres; from 1885-88 minister to Denmark; from 1888-92 to Greece; and from 1892-93 to Belgium. From 1893-96 he was ambassador at Vienna, and from 1896-1904 at Peris. He was created a baronet in 1905.

Monsonia, a genus of ornamental shrubs and sub-shrubs (order Geraniaceæ). M. lobata bears blue, red, white, or green flowers, and M. speciosa, rose-flowers, with a purple

eye and green exterior.

Monsoon (from the Arabic mawsim, a season), a term used generally for any wind which blows regularly at fixed seasons; but also applied to those winds which blow over the Indian Ocean from Australia to India. From April till October they blow from the S.W., from October to April they blow from the N.E. Their regularity is caused by the regular change of the seasons; during the winter, the cold air from the interior of Asia flows outward in a general south-westerly direction towards the warmer sea, when the land, on the contrary, be-comes more heated than the sea, the direction of the current of air changes and flows inwards in a north-easterly direction. In some places the change to the S.W. monsoon is accompanied by calms, in others by variable winds, and in parts of India by violent thunderstorms and torrential rains.

bring the expected rains, and the result is such a famine as occurred in 1895 and again in 1899. The direction of the wind is not always the same, the S.W. monsoon being deflected to the S. and S.E. in the equatorial belt, and accompanied by violent typhoons in the neighbour-hoods of the E. Indies and Madagascar. The term monsoon was originally brought to England from the E. Indies by Portuguese traders in Elizabethan times, but accounts of the winds were chronicled by Pliny and Aristotle, as well as by the Arab historian, Sidi Ali, in 1554. See Prof. Ferrel, A Treatise on the Winds, 1889. See also WINDS.

Monster, a vil. in the prov. of S. Holland, Netherlands, 15 m. N.W. of

Rotterdam, Pop. 5784.

Monstrance (Lat. monstrare, to show), or Ostensory, the instrument used in the Roman Catholic Church for holding the Sacred Host in benedictions, processions, and expositions of the Blessed Sacrament. It stands on a circular base, and the upper part is now almost invariably made circular, with rays extending on all sides from the centre. The Host itself is held in a small crescent-shaped lunula, or lunette.

Monstrelet. Enguerrand de (1390-1453), a French chronicler, probably born in Ponthieu. Very little is known of his life. He was attached to the service of John of Luxembourg, and was at Compiègne when Joan of Arc was captured by the Burgundians. He was provost at Cambrai, and bailiff of Walincourt (1444). His Chronique, covering the years 1400-44, continued Froissart's Chronicle, and is a clear and accurate account of current events. There is an English translation by Thomas Johns (1810), and the latest French edition is that of Douet d'Arcq (1857-62).

Monstrosity, see TERATOLOGY.

Monstrosity, see Terattology.
Monsummano, a tn. of Tuscany,
Italy, 15 m. E. of Lucca; has natural
vapour baths. Pop. 8527.
Montagnana, a walled tn. in the
prov. of Padua, Italy, 22 m. S.W. of
Padua. It has a 15th century Gothic
cathedral. Manufs. include silk, wool,
hemp, and cotton goods. Pop. 10,364.
Montagnards, or Montagne: 1. The
name given to the extreme Democratic party in the first French

cratic party in the first French

in by the N.E. monsoon. It some | St. Just, and Collot d'Herbois, the times happens that the M. fails to men of 'the Reign of Terror.' The name was temporarily revived in 2. A collective name given to six tribes of the northern division of the Athabascan stock of N. American Indians, occupying the interior of British N. America.

Montagu, a British battleship, displacement 14,000 tons, launched in 1901. On May 30, 1906, during the mobilisation of the fleet, she went ashore on Lundy Island, Bristol Channel, in a thick fog, and became a total wreck.

Montagu, Charles, sce HALIFAX. EARL OF.

Montagu, Edward, see Manchester.

SECOND EARL OF. Montagu, Elizabeth (née Robinson) (1720-1800), an author, married in 1742 Edward M., grandson of the first Earl of Sandwich. She was one of the best-known and most popular

and at 1mong

on the Writings and Genius of Shakespeare. She was a voluminous correspondent and her Letters were collected and published (1809-13) by her nephew, Matthew M. There is a biography by

Mrs. Clemenson (1906). Montagu, Lady Mary Wortley (1689-1762), an author, was a daughter of Evelyn Pierrepont, first Duke of Kingston. In 1712 she married Edward Wortley M., who four years later was sent as ambassador to the Porte. Lady Mary accompanied her husband to the E., and there learned something of the practice of inoculation for smallpox, which on her return in 1718 she introduced into this country. She lived in London for the next twenty years. Her quarrel with Pope, or rather Pope's quarrel with her, is historic. She went abroad in 1739, and remained away until the death of her husband in 1761, when she came again to England. Mary's Town Ecloques were first published in 1716 under the title of Court Poems. Her Letters were given to the world in 1763, and her Works were collected in 1803.

Montague, a in. in Franklin co., Massachusetts, U.S.A., 72 m. W.N.W. of Boston. Pop. (1910) 6866, Montague, Basil (1770-1851), a

Montague, Basil (1770-1851), a British lawyer and miscellaneous writer. In 1798 he was called to the bar, and began to write on legal subjects, chiefly with the object of ameliorating the condition of the debtors' prison, and (of the death murder or tr edition of B and a volume of essays.

English writer on natural history, born at Lackham, Wiltshire. He entered the army and served in the war with the American colonies. He was one of the earliest members of the Linnean Society, for which he wrote papers on the birds and shells of S. England. He had a splendid collection of birds and other animals which was purchased by the British Museum. He published an Ornithological Dictionary of British Birds, 1802: and Testecea Britannica, 1803, on British shells.

Montaigne, Michel Eyquem, Seigneur de (1533-92), a French essayist, born at the château of S. Michel de Montaigne, near Bordeaux. In 1539 he entered the Collège de Guienne. There he studied under George Buchanan and Marc-Antoine Muret.



He entered upon a legal profession, and in 1555 succeeded his father as a magistrate in the Cour des Aides, becoming a city councillor two years later. But life in the law courts was later. But life in the law courts was very tedious to him, and after the death of his father (1568) he gladly retired to his estate, where he lived with his books for the remainder of his life. He had already published of Raymond de Sebond (1567), and in 1569 he edited the literary remains of his friend, La Boëtie. He began his Essais in 1571, and published the first two books in 1580. In the latter year he travelled abroad, and on his return was elected mayor of

Montague, George (1751-1815), an a third book was added, appeared in 1588. He died of quinsy in his château, and was buried first at Montaigne and later in the chapel of the Feuillants at Bordeaux. criticism is analytic, sceptical, and inconclusive. He appeals to readers of all classes, probably on account of his own wide spirit of toleration. As an essayist, in point of matter and form, he has had a remarkable influence on modern European literature. A new edition of his Essais was brought out by Mile. de Gournay in 1595. by Mile. de Gournay in 1995. The chief English translations are by John Florio (1603) and Cotton (revised by Hazlitt, 1865). See Alphonse Grün, Vie Publique de Michel Montaigne, 1855; J. Feis, Shakespeare and Montaigne, 1884; Emerson, Representative Men; Dowden's Montaigne, 1905; M. E. Lowndes, Michel de Montaigne, 1898; and Edith Sichel, Michel de Montaigne, 1914

Michel de Montaigne, 1911.

Montajone, a com. in the prov. of, and 25 m. S.W. of the city of Florence,

Italy. Pop. 9,500.

Montalban, a tn. of Carabobo, Venezuela, 28 m. W.S.W. of Valencia.

Pop. 7000.

Montalembert, Charles Forbes de Tryon, Count (1810-70), a French historian, born in London, the son of a French *émigré* and his English wife. In 1830 he joined Lamennais on the staff of the *Avenir*, accom-panying him to Rome and to Munich. He submitted to the pope in 1835, and published his *Histoire de Sie. Elisabeth d'Hongroie* in 1836, the first-fruits of his mediæval studies, which was followed by Du Vandalisme et du Catholicisme in 1839. After the confiscation of the Orleans property he was a fierce opponent of Louis was a herce opponent of Louis Napoleon, whom he had at first sup-ported. Failing to be re-elected to the Legislative Assembly in 1857, he devoted himself entirely to literature. He was elected to the Academy in 1852. His great work was Les Moines d'Occident (5 vols.), 1860-67 (Eng. trans., 1861-79). He also published: L'Avenir politique d'Angleterre, 1856; Le Pape et la Pologre, 1864 : Mémoire de l'Abbé Lacordaire, 1863. See Life by Mrs. Oliphant (1872), De Meaux (1897), and Lecannet (1895-1901).

Montalto, a tn. in the prov. of and 10 m. N.W. of the city of Cosenza, Calabria, Italy. Pop. 7000.

Montalvan, Juan Perez de, see

PEREZ DE MONTALVAN.

Montana, a north-western state of the American Union, bounded on the N. by Canada. It is the third in size of the American states, with a total area of 146,572 sq. m. The eastern part consists of rolling plains rising from an elevation of 1800 to 4900 ft. Bordeaux. The fifth edition, to which at the base of the Rocky Mts. in the

Mt. Douglas (11,300 ft.) is the rubber goods, and cutlery. highest peak. The Missouri rises in Yellowstone Park in the E., and with its tributaries, the Yellowstone, Milk, Sun, Marias, Teton, and others, drains the greater part of the state, while the Clark Fork of the Columbia R. drains the N.W. corner. In the river valleys and where irrigation has been extensively introduced, the soil is very productive, and grazing is important. The great industry of the state is mining, with the smelting of copper and lead; gold, silver, sapphires, and coal are also found. The capital is Helena (16,770); (43,624) Great and Falls (21,500) are the largest towns. was organised as a territory in 1864, and admitted to the Union in 1889. Pop. (1910) 376,053.

Montanism, a heretical movement of the 2nd century. Montanus, its leader, was a native of Mysia, and the movement took its rise at a town of Phrygia. Montanus conceived that he had a mission to bring the Church back to a state of strictness and purity, but his great claim was to be the Paraclete promised by Jesus to his disciples. He taught that revelations to man still continued, and these were frequently delivered by himself and by his female companions. Delicas and Maymilla. He panions, Prisca and Maximilla. He proclaimed that the end of the world was at hand, and that then Christ would reappear at the town of Pepuza in Syria. To await this event a large community gathered round him there. M. was strict and most ascetic. No forgiveness was possible after mortal sin, the sacraments were therefore unnecessary, marriage was discouraged as an inferior state. At first the sect spread rapidly and made its most famous convert in Africa, where Tertullian joined its ranks. It was condemned unhesitatingly in several local councils, and finally in the Council of Constantinople (381). It died out in the West about the 4th century, and did not survive much longer in the East. See Bonwetsch's Geschichle des Montanismus (1881), and works Christian on dogma.

Montanoa, a genus of shrubs (order Compositm), bearing corymbose panicles of white, pink, or yellow M. bipinnatifida is halfflowers. hardy.

Montargis, a tn. in the dept. of W Loiret, France, at the junction of St three canals connecting the Seine 18 and the Loire, 40 m. E.N.E. of la Orleans. A bronze monument comprehensing the combine to the combine of the combine to the combine of the combine that the combine of the combine that t manufs. of paper, cotton, india- a coal-mining district, and has iron-

Pop. Montataire, a com. in the dept. of Oise, France, 25 m. N.E. of Paris; has large iron foundries. Pop. 6752.

Montauban, cap. of the dept. of Tarn-et-Garonne, France, overlook-ing the Tarn R., 31 m. N. of Toulouse. It has a Renaissance cathedral, com-pleted in 1739. It has manufs. of cloth, woollens, sugar, and metal-ware, and a large trade in horses, grain, oil, wine, and leather. The town was founded by Count Alphonse of Toulouse in 1144, and was an episcopal see from 1317-1560. It became a Huguenot stronghold and was constantly besigged. At the fall was constantly besieged. At the fall of La Rochelle, M. submitted, but its fortifications were destroyed in 1629. Pop. 28,700.

Montauban, COUSIN-MONT

AUBAN.

Montbéliard, a tn. in the dept. of Doubs, France, at the confluence of the Allaine and the Lisaine, 48 m. E.N.E. of Besancon. The castle The castle dates from the 15th century. There is a statue to Cuvier, the naturalist, born here in 1769. The chief manufacture in 1969. are watches and textiles. Pop. 10,500.

Mont Blanc, see BLANC, MONT.
Montbretia, a genus of S. African
plants (order Iridacee), now incorporated in the genus Tritonia. The flowers are of great variety of yellow and red tints, and are borne on long graceful spikes. The corms are planted in March.

Montbrison, a tn. in the dept. of Loire, France, 20 m. N.W. of St. Etienne It has mineral springs, and

manufs. ribbons. Pop. 7600.

Montcalm, Louis Joseph, Marquis de (1712-59), a French soldier, born at Candiac, near Nimes. In 1727 he entered the army, becoming a captain at the age of eighteen. He served in Italy and Germany, being wounded at Piacenza (1746). In 1755 he was placed in convented of 1756 he was placed in command of the French troops in Canada, captured Fort Ontario and Fort Henry from the English (1757), and repulsedGeneral Abercrombie's attack at Ticonderoga (1758). Lack of reinforcements and provisions forced him to retire to Quebec, where he was besieged by General Wolfe and fell mortally wounded at the battle on the Heights of Abraham. In 1827 a monument to the joint honour of Wolfe and M. was erected in Quebec. Se i Wolfe, Se18

Orleans. A bronze monument commemorates the combat between Montargis' dog and Macaire, the Canal du Centre, 25 m. W.S.W. of murderer of Montargis in 1371. It has

foundries, machine-shops, spinning! and weaving factories. Pop. 28,779.

Mont Cenis, see CENIS, MONT.

Montclair, a tn. of Essex co., New Jersey, U.S.A., 5 m. N.N.W. of Newark, is a favourite residential quarter. Pop. (1910) 21,550.

Mont-de-Marsan, a tn. of France, cap, of the dept of Landes, at the junction of the Midon and Douze, 64 m. S. of Bordeaux. It has manufs.

of resin and oil. Pop. (com.) 12,000. Mont-de-Pieté (It. Monte di Pieta), an establishment where money is lent to the poor at a moderate rate of interest, was founded, to combat the evils of usury, about the middle of the 15th century at Orvieto (1463) and Perugia (1467). The first establish-ment in Paris was opened in 1777, suppressed during the Revolution. but later restored as a national undertaking with the right to charge 9 per cent. on all loans to pay working expenses; any surplus gain goes to public charities. See Blaize (1856) and Vaulaer (1895). See also PAWN-BROKING.

Mont-Dore-les-Bains, a watering-place in the dept. of Puy-de-Dôme, France, on the Dordogne, 26 m. S.S.W. of Clermont-Ferrand. It lies at an alt. of 3412 ft. in the Mont Dore Mts. Its hot mineral springs were known to the Romans. Pop. 2000. Montebello, a vil. in the prov. of, and 10 m. S.W. of the city of Vicenza,

Italy. The Austrians were defeated

Italy. The Austrians were defeated here in 1796 by General Bonaparte, and in 1805 by the Italians under Prince Eugène de Beauharnais. Pop. 4700. Montebello Casteggio, a vil. in the prov. of, and 14 m. S.S. W. of the city of Pavia, Lombardy, Italy. The scene of two defeats of the Austrians by the French in 1800 under General Lannes, and in 1859 by the French and Piedmontese. Pop. 2200. Montebelluna, a com. in the prov. of, and 13 m. N.W. of the city of Treviso, Italy. Pop. 10,000. Monte Carlo, a tn. in the princi-

Monte Carlo, a in. in the principality of Monaco, and 9 m. E. of Nice, overlooking the Mediterranean Sea. It is a popular winter and sea-bathing resort, on account of its beautifully laid-out gardens, and delightful clime. But it is chiefly famous for its gaming establishment. The concessionaire (a joint-stock company) pays an annual grant of £50,000, rising in 1937 to £100,000. The concession expires in

1947. Pop. 3794. See Monaco. Monte Cassino Monastery Monastery,

Montecatini, two watering-places in Italy: 1. In the prov. of Pisa, 7 m. W.S.W. of Volterra; hascoppermines. Pop. (com.) 4560. 2 In the prov. of Lucca, 30 m. W.N.W. of Florence. Pop. 8748 CASSINO.

Monte Cristo, a small rocky islet off the W. coast of Italy, 28 m S. of Elba. It is 2110 ft. in height, and has been a penal settlement since 1874.

Dumas' The Count of Monte Cristo. Montecuculi, Raimondo, Count (1609-80), an Austrian general, born at Modena. In 1625 he entered the Austrian army as a volunteer, serving through the Thirty Years' War. In 1657 he fought against the Swedes, and from 1660-64 against the Turks who had invaded Transylvania. In 1672, when Austria supported Holland against France, M. was in command of the imperial army and op-posed Turenne in the campaign on the banks of the Rhine (1672-75). The Emperor Leopold made him a prince of the empire, and he was made Duke

of Melfi. See his Mémoires, 1703.

Montefalco, a com. in the prov.
and 22 m. S.E. of the city of Perugia,

Italy. Pop. 5709.

Montefiascone, a tn. in the prov. of Rome, Italy, 9 m. N.W. of Viterbo. It occupies the site of the Etruscan Fanum Voltumme, and is famous for its muscatel wine. Pop. 9500.

Monteliore, Sir Moses Hayim (1784-

Montellore, Sir Moses Hayin (1784-1885), a Jewish philanthropist, born at Leghorn, Italy. He became a member of the London Stock Ex-change, made a large fortune, and married Judith Cohen, a relative of the Rothschild family, in 1812. In 1818 he became president of the Spanish and Portuguese community. and started his strenuous endeavours to remove the civil disabilities of the Jews in England. He was High Sheriff of Kent, and in 1837 was admitted a sheriff of London, and knighted. He made several journeys to the East in his efforts to ameliorate the position of the Jews throughout the world. See Diaries of Sir Moses and Lady Montefiore (ed. Loewe, 1890).

Montefrio, a tn. in the prov. and 22 m. W.N.W. of the city of Granada, Spain, on the Bilano. Manufs, soap and cotton goods. Pop. 11,000.

Monte Generoso, a mountain on the borders of the Swiss canton of Ticino. and the Italian prov. of Como. Alt. 5590 ft. A mountain railway ascends nearly to the summit.

Monte Giorgio, a tn. in the prov. of Ascoli-Piceno, in the Marches, Italy. Pop. 7000.

Montegnée, a com. in the prov. of Liège, Belgium, has coal mines. Pop. 9000.

Montégut, Jean Baptiste Joseph Emile (1825-95), a French critic and author, born at Limoges. He prac-tised law until 1847, when he entered the field of literature with an article on Emerson in the Revue des Deux Mondes, of which he became editor in 1857. In 1862 he joined the staff of laise, 1883; and Ecrivains modernes de l'Angleterre, 1885-92, and translated the works of Shakespeare (1892),

Macaulay, and Emerson. Monteleone, a tn. in the prov. of, and 26 m. S.W. of the tn. of Cantanzaro, Calabria, Italy. The town was wrecked by an earthquake in 1905.

Pop. 13,000.

Montelepre, a com. in the prov. and 10 m. W. of the city of Palermo,

Pop. 5718. Sicily.

Montelimar (Roman Acusium), a tn. in the dept. of Drôme, France, 27 m. S.S.W. of Valence. It has manufs. of silk, cotton, bricks, tiles, It has hats, and almond candy; coal and lignite are mined. Pop. 13,600.

Montelius, Gustaf Oscar Augustin (b. 1843), a Swedish archeologist, born at Stockholm. He became connected with the History Museum at Stockholm in 1863, and since 1888 has been a professor and director there. He has made a special study of the Age of Bronze, and has published several works, many of which have been translated into various languages. Some of his books are: The Bronze Age in Sweden; The Civilisa-tion of Sweden in Heathen Times (English translation); The Bronze Age in Egypt (English translation); The Prehistoric Age in Sweden; Primitive Civilisation in Italy; Ancient Dwellings in Europe; The Bronze Age in North Germany and Scandinavia.

Montella, a com. in the prov. of, and 12 m. E.S.E. of the tn. of Avellino,

Italy. Pop. 8000.

Montelupo Fiorentino, a com. in the prov. of, and 12 m. W.S.W. of the city of Florence, Tuscany, Italy, on the Arno; has manufs. of glass and pottery. Pop. 6800.

Montem, a custom of unknown origin, which used to be held triennially on Whit Tuesday at Eton. consisted of a procession of the boys, with flags and music, headed by their captain, to Salt Hill (ad montem). It is first mentioned in 1561, and the last celebration took place in 1844

Montemayor, Jorge de (1520-61), a Spanish poet, born at Montemor-o-Velho, near Coimbra, Portugal. His fame rests on his unfinished pastoral romance, Diana enamorada, 1558 (English translation, 1598, by Bartholomew Young). An edition of his works appeared in 1886. See Schön-

herr's J. Montemayor, 1886. Monten, Dietrich (1799-1843), Monten, Dietrich (1799-1843), a German painter of battle subjects, born at Düsseldorf, and studied under

the Moniteur Universel. He wrote Garden there, but his fame rests L'Angleterre et ses colonies Australes, mainly on his 'Finis Polonise,' 1832, 1879; Essais sur la lillératur Ang-now in the National Gallery, Berlin, laise. 1883; and Ecrivains modernes which depicts the exodus of the Poles from their country in 1831

Montenegro ('Black Mountain'), Montenegro (Diaga Mountain , called by the natives Tzernagora, and by the Turks Karadagh, all three names expressive of the peculiar features of the country, is a small independent kingdom, situated because the country and Albania and tween Herzegovina and Albania, and separated from the Adriatic by the narrow strip of land known as the Circle of Cattaro, in Austrian Dal-matia. It contains about 3630 sq. m., and is everywhere mountainous, the mountains being in most cases clothed with dark forests of fir, ash, beech, oak, ilex, willow, and poplar. Mt. Dormitor, in the N., is 9146 ft., and Kutsh Kom, in the E., 9300 ft. above sea-level. Agriculture is prosecuted to the utmost extent the country will admit of, but in an extremely rude and primitive manner. The products are those of other European countries The Sumach in the same latitude. (q.v.), one of the most valuable of the natural trees, is not uncommon. Few oxen are reared, but sheep, goats, and swine abound. Cettigne or Cettinji is the seat of government. The Monte-negrins or Tzernagorzes are Slavs of the Servian race, and number about 250,000. They are knit together in clans and families, and have many feuds amongst themselves, which are perpetuated by the hereditary obligation of avenging blood. Their chief occupations at home are agriculture and fishing, but they are ever ready for war or pillage. Education among them was at a very low ebb, but is now improving. Their language is a very pure dialect of the Slavic. They belong to the Orthodox Greek Church. Political Divisions and Government.

Political Divisions and Government.—M. is divided into the districts of M. Proper, and Brda or Zjeta, each of these being subdivided into four 'nahies' or departments, and these are further subdivided, each subdivision having its own hereditary chief. Some islands in the lake of Scarteri also belong to M. Scutari also belong to M.

There is little trade in M., yet hides, wool, venison, dried and smoked fish, mutton and goat flesh, bacon, lard, etc., are exported in considerable

quantities.

History.—M. belonged in the middle ages to the great Servian kingdom, but after the dismemberment of the latter, and its conquest by the Turks at the battle of Kossovo (1389), the Montenegrins, under their prince, who was of the royal blood of Servia, Peter Hess at Munich. He was commaintained their independence, missioned to paint three historical though compelled to relinquish the episodes in the Arcades of the Royal level tracts about Scutari, with their

chief fortress of Zabliak, and confine themselves to the mountains (1485). In 1516, their last secular prince resigned his office, and transferred the government to the vladika. The Porte continued to assert its claim to M., and included it in the pashalik of Scutari; but the country was not conquered till 1714, and on the withdrawal of the Turks soon afterwards, it resumed its independence. In 1796, the Prince-bishop, Pietro I., defeated the Pasha of Scutari, who had invaded M., with the loss of 30,000 men; and for the next quarter-century we hear no more of Turkish invasions. In 1851, the last prince-bishop died, and his successor, Danilo I., separated the religious from the secular supremacy retaining the latter under the title of Gospodar. This step caused the Czar Nicholas to withdraw his subsidy (which was renewed, and the arrears paid, by the Czar Alexander II.), and the imposition of taxes thus rendered necessary caused great confusion. This was taken advantage of by the Turks, who, under Omer Pasha, invaded the country; but the intervention of the Great Powers compelled a treaty, Feb. 15, 1853. The country is now a constitutional moncountry is now a constitutional mon-archy with Nicholas I. as king. In 1912, in concert with Servia, Bul-garia, and Greece, M. declared war on Turkey, their operations being princi-pally conducted in N.W. Albania. See BALKAN WAR and TURKEY. For a complete history, see Stevenson's A History of Montengen 1913

A History of Montenegro, 1913.
Montenero, a com. in the prov. of Campobasso, Italy, 11 m. N.N.W. of

Larino, Pop. 6000.

Montenotte: 1. A vil. in the prov. and 26 m. W. of the city of Genoa, Italy, was the scene of Napoleon's first victory over the Austrians in 1796. 2. A tn. in the prov. of, and 109 m. W.S.W. of the tn. of Algiers, N. Africa; iron, lead, copper, and silver are found in the neighbourhood. Pop. 3340.

Montepagano, a com. in the prov. and 15 m. E. of the city of Teramo, Italy. Pop. 7000.

Montepulciano, a tn. in the prov. and 28 m. S.E. of the city of Siena, Italy, at an altitude of 2070 ft. It is famous for its wines. Pop. (com.) 15,399.

Montereale, a com. in the prov. and 14 m. N.N.W. of the tn. of Aquila, Italy. Pop. 7000.

Montereau, a tn. in the dept. of Seine-et-Marne, France, at the confinence of the Seine, and the Yonne, the monte of the Seine of the Se 12 m. S.E. of Fontainebleau; manufs. of porcelain, bricks, has and

San Juan, at the head of a large and beautiful valley. It is the see of the Bishop of Linares, and has a large cathedral, and a bishop's palace. There are woollen mills, brass and iron foundries, smelting works, saw-mills, flour-mills, breweries, and a carriage and wagon factory. The town was founded in 1560, and chartered as a city in 1596. In 1846 it was besieged and taken by General Taylor at the head of the American forces. In 1909 about one-fourth of the city was swept away by a flood. Pop. 81,100. 2. A city of California, U.S.A., on Montercy Bay, 90 m. S.E. of San Francisco. It is a favourite winter resort of the Pacific coast. There is good fishing, especially for salmon, and the city has sardine canneries, and large oil tanks, about 60,000 tons of oil being shipped annually. Stockraising is also a prominent industry, and sand lime brick is manufactured. It was the capital of the military gov. of California in 1847, and in 1849 the State Constitutional Convention was held here. Pop. (1910) 4923.

Monte Rosa, see Rosa, Monte. Monterosso, a tn. in the prov. and 27 m. W.N.W. of the city of Syracuse, Sicily. Pop. 6000.

Monte Sant Angelo, a tn. in the prov. and 27 m. N.E. of the city of Foggia, Italy. The Church of St. Michael is much visited by pilgrims.

Pop. 21,870.

Montespan, Françoise Athenais de Rochechouart. Marquise de (1641-1707), was the daughter of the Duc de Montemart. Having become maid of honour to the queen, she in 1668 attracted the notice of Louis XIV., who made her his mistress. She was both beautiful and witty, and remained the favourite of the king for many years, to whom she bore eight children. She was, however, supplanted by Madame de Maintenon in 1691, and left Versailles to retire from the world in 1700. Her Mémoires (1829) have been translated into English (1895).

Montesquieu, Charles de Secondat, Baron de la Brêde et de Montesquieu (1689-1755), a French philosophical historian, born in the château de la Brède, near Bordeaux. In 1714 he was appointed councillor of the parlia-ment of Bordeaux, and two years later on the death of his uncle, Jean Baptiste de Secondat, he succeeded to his title and fortune as well as to his judicial official office as president of the parliament of Bordeaux. His first literary enterprise was the publication in 1721 of his Lettres Persanes, a subtle satire on contemporary manners, written in the guise of a agricultural machinery. Pop. 8200. correspondence between two Persian Monterey: 1. A city of Mexico, cap. of the state of Nuevo Leon, on the In 1728 he published anonymously a

poem entitled Le Temple de Guide, and was admitted to the Académie three years later. After travelling for three years in foreign countries, he wrote Considerations sur les Causes de la Grandeur des Romains et de leur Décadence, 1734, a most able study of ancient Rome. In 1748 he published a monumental work, entitled L'Esprit des Lois, in thirty-one books. The standard edition of his works is that of Laboulaye (7 vols.), 1875-79.
Consult Lives by Louis Vian (1879);
A. Sorel (1887), and Sir C. P. Ibert.
See also A. Charaux, L'Esprit de
Montesquieu, 1885.
Monteverdi, Claudio (1567 or 1568-

1643), an Italian composer, born in Cremona and studied under Ingegneri: he was chiefly associated with the earliest opera house (opened 1637) at Venice, to where he had removed in 1613. In his madrigals, church music, and operas, he laid the foundation of modern music by breaking away from pure polyphony, and by his freer use of extended melody. His chief operas were Orfeo, 1607; Arianna, 1608; Il Ritorno d'Ulisse, 1641, and Poppea, 1642.
Monte Vergine, in Italy, see

see

AVELLINO. Montevideo, or Banda Oriental, the cap. of the republic of Uruguay, in S. America, is situated on the N. shore of the estuary of the Rio de la Plata which is here 60 m. wide), and 132 m. E. by S. from Buenos Ayres. It stands on a small peninsula, and is surrounded by a wall and fortifications. The houses are mostly of one story, with flat roofs, which are often used as gardens. The public buildings worthy of notice are the cathedral, the university, and the town-hall. The climate is healthy; but, as there are no rivers near the town, water is scarce, and it is only obtainable from wells, or by collecting rain-water in cisterns. There are several plazas or open spaces, and a public park. The bay or harbour, which is about 3½ m. long by 2 m. broad, presents excellent facilities for building wharfs, docks, etc., is sheltered from all but the S.W. gales, and averages 16 or 17 ft. in depth. The trade of M. is extensive; the exports consisting of wool, hides, horns, wheat, flour, corn, hay, barley, tobacco, fruit, hair, tallow, salt and preserved beef, bones, etc.; and the imports, of cott hardware, also

provisions. Great Britain. M. has steam com-munication with the United States, M. has steam com-Rio Janeiro, Britain, and Genoa, and besides these, carries on a considerable trade with France, Spain, La Plata, and Italy. In 1909 the conthe S. side of the city was begun, which is estimated to cost £1,500,000. The exports exceed £8,000,000 and the imports £4,500,000 annually. The city was founded by the Spaniards in 1726; it became free in 1814, and in 1828 was made the cap. of the republic. Pop. 291,465. The 'dept. of M. has an area of 256 sq. m. Pop. 317,879.

Montez, Lola (1818-61), an adventuress, born at Limerick, of mixed descent, her father being Irish and her mother Spanish. In 1837 she eloped with Captain James, from whom she was separated in 1842. She next turned her attention to dancing, and appeared in London, Dresden, Berlin, St. Petersburg, and Paris. visiting Munich in 1846, where she attracted the attention of Louis I., who created her Countess of Landsfeld and granted her a stipend of £5000 a year. The revolution of 1848, however, forced her to leave the country, and she spent the next years touring in the United States and Australia. She died, a penitent, in Long Island, 1861. See her Aulobiography (1858) and her Life, by E. B. D'Auvergne (1909).

Montezuma I. (c. 1390-1464), Emperor of ancient Mexico, succeeded peror of ancient mexico, succeeuse his brother in 1436. He extended the Mexican conquest, rebuilt Tenochittan, the chief Aztec city, erecting houses of lime and stone on the site of the modern Mexico, and developed

the ceremonial of the tribal religion.

Montezuma II. (1466-1520), Emperor of Mexico, succeeded his uncle in 1502. He was a great warrior and legislator, but his arrogance alienated the people, and when Cortez landed at Vera Cruz in 1519 and attempted to march on Tenochtitlan, he was well received by the inhabitants and easily made Monte-zuma his prisoner. He was killed (1520) while still in Spanish hands when, at the request of Cortez, he was attempting, by a speech, to end hostilities.

hostilities.
Montfauçon, Bernard de (1655-1741), a Benedictine of the congregation of St. Maur, the son of Timoleon de M., Lord of Roquetaillade and Conillac. His first profession was military, and he served in Germany under Marshal Turenne, but in 1075 he entered the learned congregation of St. Maur. His edition of Athanasius in Greek and Latin (3 vols. fol.) established his reputation as a profound scholar. He made a journey to Italy scholar. He made a journey to Italy for the purpose of consulting the manuscripts in the Italian libraries. In this pursuit he passed three years, and upon his return in 1702 published Plata, and Italy. In 1909 the con- an account of his journey and restruction of a new embankment on searches in his Diarium Italicum.

Among the works of this eminent Oxford. They passed statutes to enscholar, one, the best known, is his force the provisions of Magna Charta. great work entitled L'Antiquité Expliquée et Representée en Figures (Paris, 5 vols. fol.), to which, in 1724, was added a supplement in 5 vols.

Montferrat, Duchy of, a territory between Piedmont, Milan, and Genoa, originally independent, but now forming part of the kingdom of Italy. It had an area of 1300 sq. m., and its capital was Casale. A portion of the duchy fell to the dukes of Savoy

in 1631, and the remainder in 1703. Montfleury, Antoine Jacob (1640-85), a French dramatic author, born in Paris. He was called to the bar in 1660, but made his reputation as a dramatist the same year by his comedy entitled Mariage de Rien. He dramatic works wrote numerous which are characterised by their originality. Some of them are: Les originatoy. Some of the state o 1664: L'Escolle des filles, 1666; Crispin gentilhomme, 1677; La Dame médecin, 1678; and La Femme juge et partie, 1669, a comedy in five acts, his masterpiece.

Montfort, the name of an ancient French family, which is taken from the castle of Montfort or Montfort l'Amaury, near Paris. It was founded by William, the son of Amaury, Count of Hainault, who married the heiress of Montfort about 952 Some members of the family are: Simon IV. de Montfort (c. 1160-1218), who took a prominent part in the crusade against the Albigenses. Amauri de Montfort (192-1241), who was made constable of France in 1230. Guy de Montfort (d. 1228), brother of Simon IV., whom he accompanied on his military exploits. Volande (d. 1322), who married Arthur II. of Brittany.

Montfort, Simon de, Earl of Leicester (c. 1206-65), born in France. He offered his services to Henry II., who was so highly pleased with the young French noble that he conferred on him the title of Earl of Leicester. He married Elinor, sister to King Henry III. and the youthful widow of that Earl of Pembroke to whom, more than to any other, the people of England owe Magna Charta. After this marriage - which was

view De I the:

and, under the direction of De M., ventor), which contains many beauti-held the celebrated parliament at ful passages. Other works are: The

force the provisions of Magna Charta. The king swore to observe them, but sent forthwith to the pope praying to be absolved from his oath. The bull of absolution arrived. Henry set his barons at defiance, and the war began with the battle of Northampton. At Lewes the royal forces were signally discomfited, and the king taken cap-The conditions exacted from the king were that he should observe Magna Charta and the Charter of the Forests; be moderate in his expenses and grants until his old debts were paid off, and that Englishmen only should be chosen counsellors. queen (Elinor of Provence), who was in France, now occupied herself in collecting a large army. To deliberate upon the measures to be adopted at this great crisis, writs were issued to the sheriffs, in 1265, by De M., directing them to return two knights for each county and two citizens or burgesses for every city and borough. and from this time may be clearly dated the recognition of the Commons as an estate of the realm in parliament. A second war broke out, and this time the popular cause was weakened by defection and treachery. Prince Edward (afterwards Edward I.) encountered the barons at Evesham with a greatly superior army; De M. was defeated and killed. Like Cromwell, whose career in many respects resembles his own, he was denied a grave by the royalists, his head being sent to Wigmore Castle and his mutilated limbs to different towns.

Montgolfier, Joseph Michael (1740-1810), the inventor of air balloons, was born at Vidalan-Jes-Annonai. In conjunction with his brother, Jacques Etienne, he devoted himself to scientific pursuits, and having discovered that a balloon, with a car attached to it, could be kept suspended by a supply of heated air, made his first experiment with his brother in 1783. He was also the inventor of an hydraulic machine called the water-ram.

Montgomerie, Alexander (c. 1556-10), a Scottish poet, born in 1610), Ayrshire, and the brother of Robert M. (d. 1609). He held office in the Scottish court in 1577 and became poet laureate, but in 1586, having obtained a royal licence, he left England for travel on the Continent. He was, however, imprisoned and his pension withheld, to be renewed, after the ties a protracted law suit, in 1538-59. His debt chief poem is The Cherric and the Slac (first ed. 1597), written in a able, that the people were in a same of insurrection. The barons assembled and, under the direction of De M. Flyting betwixt Montgomery and Polwart (first ed. 1621); and The Mindes Melodie (1605), a version of fitteen of the Psalms, Simeon's song, and the 'Gloria Patri'

Montgomery: 1. A municipal and parl. bor. of Wales, cap. of the co. of the same name, is placed at the foot of a high and well-wooded eminence, about 11 m. from the Severn, and 168 m. N.W. by N. of London. The ancient castle of Montgomery, of which some ruins still remain, was founded by Baldwin, a follower of William the Conqueror. Pop. (1911) 983. 2. A dist. and tn. of the Punjab, India, in the Lahore div. The district has an area of 4754 sq. m., and is situated between the Ravi and the Sutlej. The town lies 90 m. S.W. of Lahore, and has cotton and silk manufs. Pop. of dist., 465,050; of tn., 6600.

Montgomery, Florence (b. 1847), authoress, is the daughter of Admiral Sir Alexander Montgomery. Encouraged by Whyte Melville, she published her first book at the age of twenty. This tale, entitled A Very Simple Story, achieved great success, and her reputation was secured on the appearance of Misunderstood, 1869, which was still more popular than her earlier work. Other books are Thrown Together, 1872; Thuarted, 1873; Wild Mike and his Victim, 1874; Seaforth; 1878; Transformed, 1886; Prejudged, 1900; An Unshared Secret, 1903.

Montgomery, Gabriel, Comte de (c. 1530-74), a French knight and officer in the Scottish Lifeguard of the King of France. At a tournament given by Henry II. in honour of his daughter's marriage with Philip of Spain, M., at the king's command, entered the lists unwillingly with him and accidentally killed him. although blameless, left France, and soon after embraced Protestantism in England. On the commencement of the religious wars in 1562, he returned to his native country and defended Rouen with great bravery. In the third religious war M. gained many advantages over the royalists; he escaped from the massacre of St. Bartholomow and fled to England. Next year he returned to Normandy, but being compelled to surrender the castle of Domfront, he was carried to Paris and was beheaded after long imprisonment.

Montgomery, James (1771-1854), a British poet and hymn-writer, was born at Irvine, in Ayrshire. He up journalism, editing the Sheffield Iris for upwards of thirty years. In 1806 he produced his years. In 1806 he produced ms Wanderer of Switzerland, founded upon the French conquest of Switzer- of

and land, and in 1810 published another volume of verse entitled The West Indies, in which he appeals for the abolition of the slave trade. were followed by The World before the Flood, 1812; Greenland, 1819, a poem founded on the Moravian missions to Greenland; Songs of Zion, 1822, and The Pelican Island, 1826, a poem written in imitation of Shelley, which is generally considered his best work. He also wrote Lectures on Poetry and General Literature, 1833, and many hymns, upon which his reputation now mainly rests. Some of these are: Songs of Praise the Angels sang: For ever with the Lord; and Go to Dark Gethsemane.

Montgomery, Robert (1807-55), an English poet, born in Bath. In 1828 he published The Omnipresence of the Deity, Death, A Vision of Hell, and in 1829 Satan, which was scattingly reviewed in an orticle by Monuley. He was in the article by Macaulay. He went to Lincoln College, Oxford, in 1830; was ordained in 1835, and devoted himself zealously to his duties as curate at Whittington in Shropshire. In 1836 he came to London, and then went to St. Jude's Chapel, Glasgow, in 1838, and back in London again in 1843 at the Percy Street Chapel, St. Pancras. At all these places he

drew very large audiences.

Montgomeryshire, an inland co. of N. Wales, between Shropshire on the E. and the Welsh counties, Merioneth and Cardigan, on the W. Area 925 sq. m. The surface is almost 925 sq. m. mountainous (Plinlimmon, wholly 2469 ft.), a large portion consisting of bleak elevated moorlands, but toward the English border there are several warm, fertile and well-wooded The Severn, the Vyrnwy (Liverpool's main water supply), and the Dovey are the principal rivers. The county belongs almost entirely to the basin of the Severn. mineral wealth of M. is not great, but copper, lead, and zinc are procured, and millstones, slates, and limestone are quaried. Cattle and sheep, and are quaried. Cattle and sneep, and the pure breed of Welsh ponies called 'Merlins,' are reared. The Welsh-flannel manufacture is extensively carried on in the county. The capital is Montgomery. The county sends one member to the House of Commons. Pop. (1911) 62,202.

Month (interval of time) is the time which elapses between one new

time which elapses between one new moon and the next. This interval is not constant owing to movements of the moon's orbit relative to the Its mean length is 29:5305887 earth. There are five distinct classes days. 'The sidereal M.,' or the time of M. complete circuit, averages

perigee to perigee, averages 27·554599 days; the tropical M., or the interval from one vernal equinox to the next, averages 27.32158 days. The average 'nodical M.,' or the interval from a node to a similar node, is 27.212222 days; the 'common or synodic M.' is the interval 29.5305887 days noticed above.

Montholon, Charles Tristan, Marquis de (1783-1853), a French general and diplomatist, born at Paris. He first entered the navy, but later joined the army and served in many campaigns. In 1809 Napoleon made M. chamberlain; he employed him at Wartzburg, 1811-12, and in 1815 M. accompanied Napoleon to St. Helena. With General Gourgaud he published General Gourgaud he published Mémoires pour servir à l'Histoire de Attemores pour servir a l'Histoite de France sous Napoléon, écrits à Ste. Heléne sous la dictée, 1822-25. M. accompanied Louis Napoleon in his attempt at Boulogne (1840), but as his chief he was sentenced to twenty years' imprisonment at Ham. published in England Récits de la Captivité de Napoléon in 1847, and about a year after regained his liberty.

Monthyon, see Montyon.
Monti, Vincenzo (1754-1828), an
Italian poet, was born at Fusignano,
near Ferrara. At the beginning of his career he was scoretary to Luigi Braschi, and at that time was a violent enemy of the French, but in later life he became a Republican, next a panegyrist of Napoleon, and lastly a eulogist of the Emperor of He was prefessor of elo-Austria. quence at Pavia during the French republic, and during the empire historiographer for Italy at Milan. He was also a knight of the Legion of Honour, and a member of many learned societies. His Basvillina, written on the murder of Hugo Basseville, the French ambassador at Rome, is a wonderful imitation of Dante, and gained him a high reputation. His other chief works were Bardo della Schu Nera, a culogy of Napoleon. Cartica, a political of Napoleon; Cantica, a political poem; a translation of Homer's Iliad, and Proposta di alcune correzioni ed aggiunte al vocab. della Crusca, an attack on the pedantry of the Cruscan dictionary. He also He also wrote the tragedies of Galeotti Manfredi; Aristodemo, and Caio Gracco. See works by Cantu (1879), Vicchi (1885-87), and Tumbini (3rd ed., 1894). Vicchi

Montia fontana (Water Blinks, or Water Chickweed), a small annual plant (order Portulacaceæ) with pale green leaves and cymes of white flowers. It is common in wet places.

27.3216614 days; the anomalistic French painter, was born at Mar-M., or the time of revolution from seilles. He studied in his native city, but later settled in Paris, and by the close of the reign of Napoleon III. had already become famous. His pictures are characterised by their fantastic colouring; indeed, M. sacri-ficed line, composition, and draughtsmanship for the sake of vivid hues. Among his works are 'The Park of St. Cloud'; 'Corot and his Models' 'The Court of Henry III.'; 'The Miraculous Draught of Fishes.'

Montigny, a com. in Lorraine, Germany, 11 m. S.W. of Metz, on the Moselle; has railway workshops. Pop. 14,015.

Montilla, a tn. of Spain in the prov. of Cordova, and 20 m. S.S.E. of the city of that name. Manufs. of coarse linen and earthenware are carried on,

and a famous wine is grown in the vicinity. Pop. 13,603. Montluc, Blaise de Lasséran (1502-77), a marshal of France, born of an illustrious Gurenne family, and one of the bravest, if cruellest, soldiers of all time. As a captain of infantry, fought under Brissac against the Italians, and narrowly missed ending the war by a coup de main. Per-formed brilliant exploits at the head of his arquebusiers at Cérisoles (1544), and again at San Damian, Bène, and Costemiglia. Became lieutenantgeneral of the government of Gurenne (1564), and executed Protestants wholesale 'with a ferocious gaiety.' His last military act was the siege of La Rochelle (1573), after which he devoted himself to compiling Commentaires of memoirs of his military life.

Montlucon, a tn. of France in the dept. of Allier; is picturesquely situated on the slope of a hill on the r. b. of the Cher, at the southern extremity of the Canal de Berri, 40 m. W.S.W. of Moulins. It manufs. W.S.W. of Moulins. It manufs. mirrors, glass, chemicals, and sewing machines, and trade in corn, wine, and fruits. Pop. 34,000.

Montmartre, a northern quarter of Paris, within its fortifications. It is a Sunday resort of Parisians. lies at an altitude of 320 ft.

Montmedy, a tn. and second-class fortress of France in the dept. of Meuse. It is defended by extensive outworks, and has a barracks, military hospital and prison, and manufs.

hosiery and leather. Pop. 3000.

Montmorency: 1. A riv. of Quebec, Canada, rising in Snow Lake and entering the St. Lawrence, 6 m. N.E. of Quebec. The falls at its mouth are Anter Chickweed), a small annual 150 ft. wide and 265 ft. high; they ant (order Portulacaceæ) with the green leaves and cymes of white Divers. It is common in wet places. A com. in the dept. of Scine-et-Monticelli, Adolphe (1824-86), a Forest of M. is a favourite resort of the Parisians. grows famous cheap lace, and

cherries. Pop. 6000.

Montmorency, Anne, first Duc de (1493-1567), marshal and constable of France, belonged to one of the oldest and greatest of the noble families of France. He received, it is said, the name of Anne from his god-mother, Anne of Brittany. He distinguished himself in the wars be-tween Francis I. and the Emperor Charles V., and was taken prisoner along with his sovereign in the battle of Pavia. He afterwards became the leader of the French government, and was made constable in 1538; he was suddenly banished from court in 1541, but returned on the accession of Henry II., and was again head of affairs. In 1557, he commanded the battle of St. Quentin, in which he was of taken prisoner. During the minority of Charles IX., M., with the Duke of Guise and the Marshal St. André, composed the famous triumvirate which resisted Catharine de Medici. In 1562 and 1567 he commanded the royal army against the Huguenots. and in both wars gained victories over them, but was fatally wounded at St. Denis, 1567. Montmorency, Henri, Duc de (1595-

1632), the son of Duke Henry I., and grandson of Anne, Constable of france. He took part in the religious wars (1621-30), took Ré and Oléron in 1625, and defeated the Piedmontese in 1630. He was made marshal the same year, but being provoked into rebellion by Richelieu, he joined the party of Gaston, Duke of Orleans, and placed himself at the head of the insurgent army. He was, however, defeated by Marshal Schomberg at Castelnaudary in 1632, and, being severely wounded, fell into the hands of the enemy and was be-headed as a traitor at Toulouse.

Montoro, a tn. of Spain, in the prov. of Cordova, built on a rocky ridge around which winds the Guadalquivir, 26 m. E.N.E. of Cordova. The heights in the vicinity are clothed with olive plantations, and oil is largely exported from this quarter. Woollens and earthenware are manufactured. Pop. 15,000.

Montorsoli, Fra Giovan Angelo (c. 1500-63), an Italian sculptor, born near Florence. He studied under Andrea Ferrucci at Fiesole, and was atterwards employed at Rome, Perugia, and Volterra, finally work-ing for Michael Angelo at San Lorenzo, Florence, About 1527 he Lorenzo, Florence. About 1527 he turned monk, and in 1530 was in-vited to Rome by Pope Clement VII.,

It has manufs. of Naples; the statue of Andrea Dorla, at Genoa; the fountain in the piazza and the facade of the cathedral at Messina; and various statues in the church of the Servites at Bologna.

Montpelier, a city, cap. of Vermont, U.S.A., co. seat of Washington co., on the Winooski R. The State Capitol is one of the most magnificent buildings in the U.S.A. Manufs. include lumber, flour, saddlery, and hardware. Has granite quarries near.

Pop. (1910) 7856.

Montpellier, a tn. of France, cap. of the dept. of Hérault, is situated on an eminence on the r. b. of the Lez, 30 m. S.W. of Nimes, and 17 m. N.W. of Cette, the port of this town. It is irregularly built, with narrow, steep, but generally clean streets, and the houses are mostly well built. It has a cathedral, with no pretensions to beauty or interest; a university; an exchange, with a fine Corinthian colonnade; a court-house; a medical school, etc. The botanic garden of M., the earliest collection of the sort in France, was established in the reign of Henri IV. There are, among other establishments, cotton and woollen factories, dye-works, paper mills, distilleries, breweries, sugar-houses, and chemical works for the making of alum, Prussian blue, etc. The principal articles of export, be-sides the produce of the manufac-tures, are wine, oil, fruits, wool, and other rural produce. Towards the end of the 8th century M. was first raised into the position of an important town, governed by hereditary lords under the bishops of Mague-leonne. At the Reformation a great number of the inhabitants embraced the side of the Huguenots. 80,230.

Montpensier, Anne Marie Louise Orleans, Duchess de (1627-93), d'Orleans, Duchess de (1627-93), known as 'La Grande Mademoiseile' daughter of Gaston, brother of Louis XIII. She was an ambitious woman, but much of her energy was wasted in seeking a husband. She aimed at marriage with Louis XIV., but was defeated in this by Cardinal Mazarin (q.v.). This annoyed her. and during the wars of the Fronde (q.v.) she accompanied the army with Condé, against the court. She contrived a secret marriage with Lauzun, but he was imprisoned soon after.

Montreal, the largest city in Canada, is situated on a triangular-shaped island of about 30 m. in length and 7 m. in breadth, at the confluence of the rivers St. Lawrence vited to Rome by Pope Clement VII., and Ottawa. It was founded in 1642, who employed him to restore some and called Ville Marie by a French statues. Some of his works are: the company, which had for its object tomb of the poet Sannazzaro, at the conversion and civilisation of

since remained in peaceful possession. It was formerly the seat of government, but in 1847 it was removed to Quebec and later to Ottawa. The R. Ottawa, which joins the St. Lawrence both above and below the town, drains an area of about 80,000 sq. m., and M. being the highest point to which the St. Lawrence is navigable for sea-going vessels drawing 18 ft. of water, it may be considered as the chief port of the great St. Lawrence system. The city situated on the l. b. of the St. Lawrence, 300 m. from its mouth, and stands on the slope of an isolated hill, from which it takes its name. It contains many imposing edifices, among which may be noted the Roman Catholic church of Notre Homan Catholic church of house Dame, Christ Church Cathedral, and the M'Gill University. There is ex-tensive wharfage and dockage, and the city is an important railway centre. The manufacturing indus-tries are considerable, and include tanneries, breweries, iron, brass and lead works, flour and saw mills. There is trade in grain, cattle, lumber, cheese, butter, and fruit. The exports exceed £15,500,000 annually, and the imports reach £19,000,000. The the imports reach £19,000,000. Lachine Canal is a means of communication with neighbouring towns. The Victoria Jubilee Bridge, which spans the St. Lawrence, is nearly 2 m. long. The city is well served Pop. 466,000.

Montreuil, or Montreuil-sous-Bois, a tn. in the dept. of Seine, France, 1½ m. E. of Paris. It is famous foits peach orchards, and has gypsum quarries and manufs, of porcelain, paints, glue, chemicals, and soap.

Pop. 35,904.

Montreux, a par. at the eastern end of Lake Geneva, canton of Vaud, Switzerland, which includes the Switzeriand, which mediate villages of Clarens, Vernex, Territet, Glion, Veytaux, and others. It is a favourite winter resort. Near Yeyfavourite winter resort. Near taux is the famous Castle of Chillon. Pop. 15,230. See Lewis and Gribble's Montreux, 1908.

Montrose, a seaport of Forfarshire, Scotland, 42 m. S.S.W. of Aberdeen. It is rich in historic memories and is now an aerial station. Industries include timber and flax spinning. Pop.

(1911) 12,668. Montrose, James Graham, fifth

the Indian tribes. During fifty years the settlers were harassed by the treacherous attacks of the Iroquois, but by an heroic resistance they at tranquillity of the colony. On Sept. 8, 1760, M. was finally delivered up to the British, in whose hands it has since remained in proceeding possession to the British, in whose hands it has since remained in proceeding possession. but more by his discontent with the political supremacy of the bishops and his desire to give a greater independence to his countrymen, he the national movement. assisted at the signing of the Covenant (1638), three times occupied Aberdeen for the Covenanters, and finally overthrew Viscount Aboyne, Charles' lieutenant in the N., at the Bridge of Dec (1639). M. now came a second time into personal contact with the king and hence, according to the Presbyterians, arose his great apostasy. M. definitely joined the king in 1641, and was imprisoned the same year for six months in consequence of a supposed conspiracy against Argyll. In 1644, with the rank of lieutenant-general and the title of marquis, he defeated the covenanting forces at Tippermuir and Aberdeen, and in the following year won four other pitched battles at Inverlochy. Auldearn, Alford, and Kilsyth. His subsequent attempt to raise the royalist standard in the Lowlands was an utter failure, and in 1645 he suffered a crushing defeat at Philiphaugh; next year he was a refugee in Norway. The responrefugee in Norway. The respon-sibility for this sudden and disastrous reversal of fortune rests in part on the ill-fated M. himself. He had been blind to the fact that, while Highland troops will perform unheard-of deeds of daring to defend their with railways, and there are regular clannish honour, they are incapable Transatlantic steamship services. of disinterested combination to further a national cause, and he had, moreover, been powerless to restrain the wanton carnage which had been the regrettable sequel to all his victories. M. was in the Low Countries when he heard of the king's execu-tion. He swooned at the news, and swore a great oath to avenge the martyr's death. In 1650 he landed in Caithness with a mere remnant of the little army he had collected, for he suffered shipwreck on the way, easily vanquished and was bν Strachan's horsemen at Invercarron. The same year he was hanged in the Grassmarket, Edinburgh. Thus ended a life of meteoric splendour. Mont St. Jean, a vil. of Belgium, in the prov. of S. Brabant, 11 m. S.E. of Brussels, and just E. of the scene of Waterloo.

Mont St. Michel, a granite islet in the bay of St. Michel, near the mouth of the Couesnon, 15 m. S.S.E.

The island rises to a height length. length. The island rises to a height of 240 ft., and is crowned by a Benedictine monastery dating from the 11th century. The quicksands that surround the island are exposed at low water, and highly dangerous, whilst the tide comes in at a great speed. Pop. 250.

Montserrat (Lat. Mons serratus, Sp. onte Scrrado, from its jagged ing from 976, stands on the edge of a huge chasm in the eastern face; it is supposed to owe its existence to the image of the Virgin, said to have been carved by St. Luke, found in 880 in a cave of the mountain. There are also the ruins of 13 hermitages. 2. One of the Leeward Is. in the British West Indies, in 62° 7′ W. and 16° 41′ N. The island is mountainous, rising 2500 ft. above sea-level, is well watered, and has good roads. The principal products are sugar, molasses principal products are sugar, molasses and lime juice. Cotton is now being grown. The climate is healthy, the mean temperature being 78° F. in the shade, and the rainfall varying between 40 and 80 in. per annum. The capital is Plymouth on the S.W. coast. Area 32 sq. m. Pop. 12,200.

Montucla, Jean-Etienne (1725-99),
a French mathematician, studied

classics and mathematics at the Jesuits' College of Lyon, his native town. In 1758 he published his great Histoire des mathématiques, afterwards completed by Lalandé, and twenty years later he issued a muchimproved edition of Ozanam's Ré-créations mathématiques (4 vols.).

Montyon, Antoine Jean Baptiste, Baron (1733-1820), a French philanthropist and lawyer. Successively governor of Provence, Auvergne, and Aunis. Became a member of the Royal Society of London. Made numerous donations by way of prizes for scientific and generally useful literary efforts, and left large sums to public Among his best known hospitals. works are: The Influence of Taxation on Morality and Industry, 1808; Observations on the most Celebrated French Ministers of Finance from 1660 to 1791, 1812; and Investigation of the Population of France, 1778.

Monumental Brasses are plates engraved with an inscription, figure, or similar symbol of a departed person of whom they serve as memorials. Though invariably spoken of as brasses, the material from which the

of Granville, in the dept. of Manche, | plates are made is not brass at all. France. It is connected with the It was anciently known as latten, and mainland by a causeway 1 m. in consists of an alloy of about threeconsists of an alloy of about three-fifths copper, three-tenths zinc, and one-tenth lead and tin. Brasses are generally found in the floors of churches, the matrix being so conchurches, the matrix being so constructed as to bring the face of the brass level with the pavement. Brasses probably began to be used as memorials in England about the beginning of the 13th century, but it was not until the reign of Edward I. that they became common. The conline the press requiring that of Sir unat they became common. The earliest brass remaining, that of Sir John Daubernoun (1277) in the church of Stoke D'Abernon, Surrey, belongs to this reign. The art of brass-making reached its height in the period from 1372-99. There are slight declines and revivals until the time of James I when the ort time of James I., when the art rapidly declined, to disappear finally in the 18th century. See Herbert W. Macklin's Brasses of England (3rd

ed.), 1813. Monuments (Lat. monumentum, memorial), any memorial of a durable nature erected to perpetuate the memory of a great person or event.
They have in days past frequently taken the form of mounds, triumphal arches, mausoleums, tombs, obelisks, or monumental brasses. The ancient M. of Great Britain and Ireland are protected by the Ancient Monuments Protection Act of 1882.

Monza, a tn. in the prov. of, and 10 m. N.N.E. of the city of Milan, Lombardy, Italy. The cathedral of San Giovanni, founded by Queen Theo-delinda in 595 and rebuilt in the 14th century, contains the famous iron crown of Lombardy. There are manufs. of silk and woollen goods, hats, leather, and machines. King Humbert of Italy was assassinated here in July 1900. Pop. 42,599. Moody, Dwight Lyman (1837-1899).

an American evangelist, born at Northfield, Mass., U.S.A., became 'converted' in 1855, and opened a Sunday school in Chicago, which subsequently developed into the Chicago Avenue Church. After con-trolling the Young Men's Christian Association here for four years (1865-1869), he was joined by Ira David Sankey. Together they wrote the Moody and Sankey 'Gospel Hymns,' which were so characteristic a feature of their revivalist meetings both in England (1873, 1881, and 1892) and America. His sermons, which have been widely translated, are marked by their conviction, simplicity, and

under Carl Rosa, and sang for four

years in Royal Italian Opera, being mum 7½°, due to variation in speed associated with Sir Augustine Harris. round the orbit; diurnal, about 1°, since 1897 she has toured in all parts really an apparent motion.

of the world with Mr. Southcote Phases.—These are due to the Mansergh (Charles Manners) in the Moody-Manners Opera Company.

Moon, The, is the earth's satellite, revolving round it in a period of 27 days 7hrs. 43min. 114 sec., but eccentricity of orbit and 'perturbations' cause this to vary by as much as 3 hours. The ordinary month is its synodic revolution period; mean value, days-the period from one 29.53 phase to the same phase again. Apparent motions, from E. to W., rising and setting 51 min. (mean, varying greatly) later each day; the 'circle' is in a plane inclined to the equator from 28.6° to 18.3°; during the month its declination varies from +28.6° to -28.6°; this variation lessens gradually over a period of 9½ years to ±13.3°, and causes great variations in retardation of rising and setting, most striking when the M. is at full. When the full M. occurs at the time of autumnal equinox, i.e. when it is near the first of Aries, it rises for some nights at much the same time, and 'coasts along' the E. horizon; this is the harvest M., the full M. nearest to the autumnal equinox. The next full M. is the hunter's M. Both sun and M., being nearer to the earth than the stars, have an east-ward motion among them during the year; the M. being nearer than the sun has a greater eastward motion, and gains 12! (average) daily on that body, which is the cause of the retardation of rising.

True motions.—(1) Revolution in an orbit round the earth, the shape of which is family from the provinting.

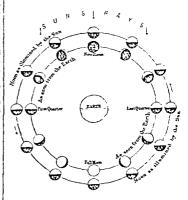
an orbit round the earth, and shaped of which is found from the variation of the M., 30°; it is

varying | ansides

(q.v.) moves round eastwards once in about 9 years; the mean distance of the M. from the earth is 238,840 m. or the M. from the earth is 235,849 m. (maximum, 252,972 m.; minimum, 221,614 m.); orbital velocity, 2288 m. per hour; mean parallax, 57' 2', giving that of the earth at the M.'s surface, 2'; real diameter, 2163 m., giving a volume ½ that of the earth (2) Axial rotation in exactly the same time as the excellation; consequence time as the revolution, in consequence of which it presents always the same aspect. Actually, we are enabled to see on the whole 59 per cent. of the stantly turned to us, 18 per cent visible at times. This is due to (3) Librations. These are slighter movements: libration in latitude due to variations in the inclination of the axis, about 6½°; in longitude, maxi-

round the other, manner, assume 1, really an apparent motion.

Phases.—These are due to the varying elongation, or angular distance from the sun. At new M. it is zero; at full, 180°; half M., 90°; the positions being respectively consisting and quadrature. junction, opposition, and quadrature. The accompanying diagram shows these and also the phases. The M. is shown on its orbit viewed from outside the whole system, while the outer series shows the view, for corresponding positions, from the earth.



It will be observed that (1) the 'horns' are always turned from the sun; (2) the waxing M. has its right side illuminated, the waning M. its left. When less than half of the illumined side is seen it is called the crescent, when more the gibbous, M.

Mass, about 36; density, 0.61; superficial gravity, 3 that of the

earth. The influences of the M. on the earth, beyond magnetic disturbances, are comprised in Tides (q.v.), an interesting question arising as to the slowing down of our rotation by friction, with a consequent lengthening of day and night. Being the nearest of the heavenly bodies, our interest is centred in the appearance of the M. and the conditions pertaining to it considered as a possibly habitable globe. Viewed through a habitable globe. Viewed through a good field or marine glass, the rotundity of the M. is well shown, and its surface features distinguishable. Under the best conditions the

visible by the naked eye; mountains, valleys, plains are to be seen; but evidences of volcanic action, in the form of volcanoes, cracks, and fissures far transcending anything of the kind on the earth, form the most striking feature. Over 200,000 craters (Pickering), some of over 100 m. diameter, are grouped and ranged over the whole surface. Bailly, the largest, is 180 m. across. (The largest terrestrial crater, Aso San, is about seven.) The magnitude of these is retorned to the surface of t tude of these is rather evidence of the low superficial gravity of the M.
than of greater volcanic forces;
material would be projected six
times as far as on the earth. Other
features are 'rills' (deep crooked valleys), clefts of unknown depth, valleys), cietas of manown ucpen, some half mile wide and several hundred long; 'rays,' light coloured and brilliant streaks, radiating from craters, notably Tycho; very conspicuous near full M. Ten ranges of mountains are noted, and heights are estimated by micrometer measurements of shadows. The Leibnitz range is the highest, Schmidt estimating its culminating peak at 41,900 ft. above the neighbouring valley. it. above the neighbouring valley. The best view of the M. is obtained a little after the half M. (For a good description see T. W. Webb's Celestial Objects for Common Telescopes.) Certain 'variable spots' have been noted, but no variation in form or colour has been definitely ascertained; Professor Pickering, however, claims such to be shown in his photographs and confirmed

by his own observations.

Light of the M., e1366 that of direct rays of the sun (Zöllner); albedo (q.w.), 0.174 (Zöllner)—about the reflecting power of light-coloured the renecting power of ingre-conducts sandstone, but there are great variations. Heat (first detected by thermopile by Melloni in 1846, consists of reflected heat, 25 per cent., and 'obscure heat' (absorbed then and obscure heat (absorbed then radiated); Lord Rosse gives solon, Hutchins 182006, that of the sun. Temperature of surface is very uncertain; Rosse estimated over 100° C. maximum, 200° C. minimum, but later (also Langley) considered it never over the freezing point of water. Very, however (1899), supports the earlier view.

Air and pearance, the . spectroscopic . .

graphs have been secured by De La If any, if would not produce 1. in Rue in England, Rutherford in America, and at the Paris Observatory, these last being unrivalled. The surface of the M. is broken and uneven. Large shallow depressions, Galileo's maria, the dull patches the cavities of the M. Stoney points visible by the naked eye; mountains, valleys, plains are to be seen; but theory of gases, the M.'s gravity is cavidences of valcanic action, in the insufficient to retain an atmosphere. insufficient to retain an atmosphere. As regards water, there is no evidence whatever of its presence either as vapour, liquid, or solid. The sur-face of the M. leads irresistibly to the belief in its former existence.

Life.—It appears quite conclusive that life as we know it does not and

cannot exist on the M.

Launar theory is not yet perfect. The 'perturbations' or irregularities of movement due to disturbing influences are not yet completely mastered; the M.'s motions are not fully accounted for, or accurately predicable, but the subject is too complicated for any elucidation in brief. See Hind, Solar System.

The periodic variation of the visible portion of the surface of the M. was observed by Galileo, who also con-structed the first map. Riccioli (1651) commenced the system of lunar nomenclature. Libration in longitude was discovered and described by Hevelius (1647). Evecscribed by Hevelius (1647). Evection, suspected by Hipparchus, discovered by Ptolemy. Variation, claimed for Abal Wefa (9th century), but generally attributed to Tycho Brahé. Sir I. Newton explained it brane. Sir 1. Newton explained in by the theory of gravitation. Parallactic equality, first elucidated and explained by Laplace; but his work was corrected by Adams, 1853. See also Airy in Month. Not., vol. xxxiv., Nov. 1873.

Additional references: Neison, The Authonal references: Neison, The Moon, 1876; Nasmyth and Carpenter, The Moon as Planet, World, and Satellite, 1885; T. G. Elger, The Moon, 1894; also lunar atlas, Harvard Annals, vol. li. For a fanciful and entertaining but instructive novel on the subject, read H. G. Wells's First Men in the Moon, William (1818-94) inventor

Moon, William (1818-94), inventor of Moon's embossed type for the blind, born in Kent. Becoming totally blind in 1840, he set about producing an embossed type for those so afflicted, and in 1845 brought out his system, which differed from former systems in almost entirely discarding contractions. His first publication publication, The Last Days of Polycarp, appeared in 1847, followed by The Last Hours of Cranmer, and other books of devotion. He also issued an edition of the Bible, and absence of any gaseous atmosphere, extended his system to foreign

a fellow of the Society of Arts in 1859, and LL.D. of the University of

Philadelphia in 1871.

Moon, Mountains of the. From classical times Africa, with its geography hidden beyond the Sahara, has been the source of mythical legends, some based on truth. The The sources of the Nile remained un-discovered till 1861, when Captain Speke explored the region S. of Lake Victoria Nyanza. Ptolemy and all other geographers had placed the source in the 'mountains of the moon,' and these were mapped E. and W. in Equatorial Africa. There was nothing but rumour and legend, based probably on information passed down among African tribes to Egypt. Captain Speke considered the crescent of mountains explored by him N. of Lake Tanganyika to be part of them. Dr. Beke considered them to be a N. and S. extension of the Abyssinian plateau. They are now generally identified with the group round Mounts Kenia and Kilima-Njaro, or the group round Ruwenzori further W. The latter is more probably correct.

Moonshiners, a colloquial synonym in the south-eastern and other states

of America for distillers of whisky.

Moonta, a municipal tn. of Daly
co., S. Australia, on Spencer Gulf,
90 m. N.W. of Adelaide; has copper
mines, Pop. 7000.

Moore, Albert Joseph (1841-93), an English painter, born in York. mural decorative work he executed at Coombe Abbey for the Earl of Craven, and in the chancel of St. Alban's Churc

all his later merit of 'Se soms' (1881 and 'A Sumr

harmonious blend of delicate colour. combined with graceful posture and charming lines of drapery.

Moore, Edward (1712-57), an English dramatist and man-of-letters, born at Abingdon, Berks. Garrick played the part of Beverley, the gambler, in M.'s once popular gambler, in M.'s once popular tragedy, The Gamester (1753), and Horace Walpole and the Lords Chesterfield and Lyttelton contributions of the Control The popular buted to his weekly journal, The World (1753-57).

Moore, George (b. 1853), an Irish novelist, began by writing poetry;

his Flowers of 1877. His novel (1885), Esther masterpiece, and proclaim him a lively interest in

languages, beginning with Irish and is testified by his comedy, The Bend-Chinese. He was made a fellow of the ing of the Bough (1900), and his Royal Geographical Society in 1852, Diarmuid and Grania, in which Mr. Yeats collaborated (1901), and also by his volumes of candid revelations, entitled Ave (1911) and Salve (1912). His early art training lends an additional value to his Modern Painting (1893).

Moore, Henry (1831-95), an English sea painter, born at York, was a brother to Albert M. After painting animals and landscapes with all the loving detail of the Pre-Raphaelites, he discovered his talent for seascapes, and henceforward painted little else. His best pictures are:

The Newhaven Packet, 1878; Mount's Bay, 1886; and Hove-to for a Pilot, 1893.

Moore, John (1729-1802), a Scottish author, attended Glasgow Univerauthor, attended Giasgow University, and was a doctor by profession. As he was attached to the British army in Flanders in a medical capacity (1747-48), was for a time surgeon to the English ambassador at Versailles, and travelled for five years (1772-77) on the Continent as two to the round Durie of Henris. tutor to the young Duke of Hamilton, portunities for manners of himself of

his his Journal of a Residence in France (1793), whilst Byron formed his Childe Harold on Zeluco, a selfish libertine, whose name supplies the title to the most popular of M.'s

novels (1789).

Moore, Sir John (1761-1809), a British general, born at Glasgow, was the son of John M. (d. 1802). Entering the army as ensign in 1776, he served a long and distinguished apprenticeship to war. During the

scent on Corsica, he was wounded the capture of Calvi (1794); in the est Indies he distinguished himself the taking of the Vigie and Morne ortune (1796), and two years later he was engaged in quelling the Irish insurrection. In 1799, during the Dutch campaign, he was wounded at the engagement of Egmont-op-Zee, and he was again disabled at the battle of Alexandria during the expedition to Egypt (1801). The story of his command in Spain cannot be told Suffice it to say that, after a here. calamitous retreat from Astorga, which almost rivalled that of 1812 in the hardships and suffering it entailed, but which seemed the last resort in view of the imminent concentration against him of overwhelming French forces, M. met a hero's death, like Epaminondas, Wolfe, and Nelson, at the very moment of victory on the field of Corunna (1809).

Moore, Mary, an English actress;

first appeared on the stage in 1885, the plumage has many hues. The when she toured in the provinces, nest is built by the waterside, and From that year dates her association the eggs are reddish-white with with Sir Charles Wyndham, with orange-brown spots. whom she was part-proprietor of the Criterion and Wyndham's (opened 1900). Since 1903 she has similarly assisted him in the control of the New Theatre, and has acted with him as Ada Ingot in David Garrick (1886), Lady Amaranth in Wild Oats, Grace Harkaway in London Assurance, Lady Susan in The Case of Re-bellious Susan, Lady Jessica in The Liars, Lady Eastney in Mrs. Dane's Defence, Mrs. Gorringe in Mrs. Gorringe's Necklace (1903), and Mrs. Baxter in The Mollusc (1907).

Moore, Thomas (1779-1852), poet, may be regarded as the national poet of Ireland. He early began to write poetry, and in 1799 was permitted to dedicate a metrical translation of Anacreon to the Prince of In 1803 he was given the Wales. appointment of Admiralty registrar at Bermuda, the work of which was done by a deputy. In 1801 he had published Poems by the late Thomas Little, and six years later began to appear his Irish Melodies, with music by Sir John Stevenson. In another by Sir John Stevenson. In another branch of letters, M. was also to make a great success, and he showed himself a master of satire in The Twopenny Post-bag (1813), in which he lampooned the regent and his he lampooned the regent and his associates. One of the most popular books of the day was his eastern poem Lalla Rookh (1817), for which he received £3000. In the following year appeared the amusing Fudge Family Abroad, written in the vein of The Twopenny Post-bag. Byron had entrusted M. with his Memoirs, but when Byron died in 1824, M. destroyed the Memoirs and wrote an excellent biography of his friend (1830), which ranks among his best work. He also wrote a biography of Lord Edward Fitzgerald, and in 1834 work. He also wrote a biography of ming the tide of Christian conquest, Lord Edward Fitzgerald, and in 1834 and retired, in 1238, to Granda, published Travels of an Irish Genlle-where they founded their kingdomman in search of a Re Memoirs, Journals, and

was edited by 3-56). There is a monograph by Spain, Morocco. (1853-56).Stephen Gwynn in the English Men of Letters series (1905).

Moorhead, a city and the co. seat of Clay.co., Minnesota, U.S.A., 212 m. N.W. of Minneapolis. It is the centre of an agricultural region, has flour mills and machine shops, and manufs. bricks. Pop. (1910) 4840.

Moorhen, or Waterhen (Gallinula after chloro;

and though not web-footed an active highly cultivated race, and in the diver and swimmer. Though black study of mathematics, science, and and whiteapparently from a distance, philosophy eclipsed all other Euro-

order

Moorings, a place in a harbour or where a vessel may ride securely either at her own anchors or attached by ropes or chains to some permanent one, a number of which, called 'chain M.,' are usually found in every harbour. 'Swinging M.' consist of a table fastened to the 'chain M.' and supported by a buor.

Moorish Architecture, see ARCHI-TECTURE-Mohammedan.

Moorland is one of those com-munities of plants called by ecologists 'a plant association,' the idea being that a particular species of plant predominates according to various conditions of the locality, though the plant itself may change these conditions to its own disadvan-The popular idea of a M. is found to be far from accurate when a definite investigation is made of characteristic floras; for example, there are great stretches of M. from which heather is altogether absent.

Moors (Lat. Mauri, meaning dark; Sp. Moros) are a people who form the great majority of the population of Barbary. Their appearance indicates their origin, which is a mixture of the Mauri (from which they derive their name), Numidians, Phœnicians, name), Numidians, Phoenicians, Romans, and Arabs, who have sucheld possession of the cessively In consequence, they are country. found to vary considerably in appearance and character in different parts of Barbary, but all show more or less strongly the symptoms of a considerable infusion of Arabian blood. They were, after a severe struggle, conquered and converted by the Arabs in 707. In 1091 they were summoned by the latter into Spain to aid in stem-Algiers, Tunis, LGIERS, TUNIS,

Moors in Spain, a composite African race, who, invited by the Church party to assist in the suppression of the Visigothic aristocracy, invaded the whole peninsula (710), and became the dominant power until the 11th century. Cordova was the great centre of the Saracen dominion 755, when its universely in Roman days, revived. Arab invaders, though luxuration of life were 8 its ns in

pean races. Through the M. the and municipal tn. of the United culture and civilisation of the Provinces, British India, 50 m. N.W. ancients was chiefly preserved, and of Bareilly. Pop. 75.000. The dist. was transmitted to the modern world. The race widely intermarried with the natives of Spain. See Spain.

Moor Steamship Company, founded in 1889 as the South Shields Steam Shipping Company, and in 1897 adopted its present name. The company has a fleet of thirty-one steamers, with a tonnage of 106,789, and a capital of £300,000. They are cargo carriers to all parts of the world. The managers are Messrs. Walter Runciman & Co., Newcastleon-Tyne.

Mooruk, see Cassowary.

Mooruk, see Cassowary.
Moose, see Elk.
Moose Factory, a post established in the 17th century by the Hudson Bay Company, and situated at the mouth of the Moose R. in Hudson Bay, New Ontario, Canada.
Moose Jaw, a city of Saskatchewan, Canada, on the Moose Jaw R., 48 m. W. of Regina. It has large flour-mills, steel and bridge works.

Pop. 25,000.

Moosonee, a dist. adjoining the lakes Superior and Winnipeg, to the S. of Hudson Bay, Canada. An Anglican missionary bishop works

Moplas or Mapillas, the race of fanatical Mohammedans, who are found along the Malabar coast in S. India. It is thought that they are S. India. It is thought that they sprung from a body of Arab merchants who came to India in the M. to-day number about a million.

Moquegua, a coast prov. of S. Peru, with an area of 5549 sq. m. Pop. 42,694. The cap., Moquegua, is 20 m. from the Chilian frontier, and 85 m. S.E. of Mollendo. The town suffered severely from earth-quakes in 1715 and 1868. Pop. 6000.

Mor (German Moor), a tn, of Hungary, in the co. of Stuhlweissenburg, 15 m. N.W. by W. of that city. Pop.

Mora: 1. A com. and tn. of Spain in the prov. of Toledo, 18 m. S.E. of the city of Toledo. Pop. 8000.

2. A com. and vil. of Sweden in the prov. of Kopparberg, on the riv. Oster Dal, 45 m. N.W. of Falun. Pop. 9045.

Mora (Lat. delay), a Scots legal phrase borrowed from Roman law, denoting all undue or unreasonable delay in prosecuting one's rights, performing one's obligations, or completing a diligence (q.v.) or a bargain. It may disentitle a party to the assistance of the court. Laches is the corresponding English term.

Moradabad, or Muradabad, a dist.

wheat, rice, and cotton are grown. Pop. 1,200,000.

Moraine Garden. This is the most recent development in horticulture. It solves the problem of the successful cultivation of a number of Alpine plants, some of which could not previously be grown away from their native moraine. There the conditions of plant growth are continuous root moisture in summer from the melting of ice and snow, and com-plete dryness and protection by the snow against frost at other times. These conditions are reproduced by excavating a hole in a sunny mound or bank, about 2 ft. deep, and of any extent, great or small. After providing perfect drainage the hole is filled with small sandstone chips mixed with a little leaf soil, and the plants are introduced with great Water can either trickle through or be poured in daily, and the stones retain moisture in the hottest weather. In the autumn the water supply is stopped, and later the moraine is drained dry. For suitable plants see plant dealers catalogues

Moral Philosophy, see ETHICS.
Morales, Ambrosio (1513-1591), a
Spanish historian, was educated at
Salamanca. Appointed historiographer in 1570, he continued Ocampo's chronicle down to the union of Leon and Castile (1037). M., though lacking the historical sense of Zurita, was vastly superior to Ocampo in the breadth of his mental outlook.

Morales, Luis (d. 1586), a Spanish painter, was surnamed 'El Divinio' because he confined himself to sacred subjects. In 1581 Philip II. found him in poverty at Badajos, and presented him with an annual pension of 300 ducats-a tardy recompense for a former unceremonious dismissal. This painter, in spite of the detrac-

tions of his critics, deserves remembrance for his consummate skill in expressing Christian suffering and grief.

Morality, a French term commonly used to describe the plays always known in England as moral plays or moral interludes. These plays, though developed out of the miracle plays (q.v.), are still more closely related to a Latin origin. Their ... source is Prudentius (c. 400), who his Psychomachia had the subject as did all the moralipersonified abstractions the human soul. A brief out

one of the earliest extant me

The Castle of Perseverence (c. 1450), will give some idea of the dramatis personæ. It tells the history of Humanum Genus tempted bу Luxuria. When about to be lost entirely he is saved by Pœnitentia, who brings him to the Castle of Here Perseverence. he remains ' until his old age, when he is tempted by Avarice. Then follows a swift descent towards Hell, whence he is saved by Pity and Mercy. For Everyman, the most famous of the moralities, see Everyman and Other Interludes in the Everyman's Library. The latest development of the M. was to make it convey some special lesson, theological or educational. In Bale's King Johan it became the medium of history, and hence led to the historical drama.

Morano Calabro, a tn. of Italy in the prov. of Cosenza, 85 m. S.S.E. of

Potenza. Pop. 9000.

Morar: 1. A dist. and loch of W. Inverness-shire, Scotland. The loch, 12 m. long, is noted as being the deepest in the British Isles, its maximum depth being 1017 ft. 2. A tn. of Central India in the state of Gwalior, and 3 m. from that city. Pop. 24,500.

Morat, or Murten, a tn. of Switzerland in the canton of Fribourg, on Lake Morat, 15 m. W. of Bern. In 1476 the Swiss here defeated Charles

the Bold of Burgundy. e Bold of Burgundy. Pop. 3500. Morata, Olympia Fulvia (1526-55), an Italian scholar and poet, daughter of a professor at Ferrara, Fulvio Pelligrino M. She lectured in public at an early age, and upon the death of her father took up teaching to main-tain the family. About 1550 she married a German physician, Andreas Grundler, but they were unsettled, and she suffered much by the siege of Schweinfurt. She died at Heidelberg, leaving many Latin and Greek poems, a commentary on Homer, etc.

Moratalla, a tn. of S.E. Spain in the prov. of Murcia, 40 m. W.N.W. of the city of Murcia. Pop. 13,000.

Leandro Moratin, Fernandez (1760-1828), a Spanish poet and dramatist, born at Madrid, was the son of a poet. On the recommenda-tion of Jovellanos he became secretary in 1787 to the Spanish embassy Paris, and after travelling in in Paris, and after travelling in Europe at public expense to study the contemporary stage, received, through the kindness of Don Manuel Godoy, the post of official translator to the Foreign Office. The arrival of Napoleon in Spain brought misfortune and exile to M. as to others. Of his five concelles the best are Of his five comedies the best are New Play (1792), a satire on the extravagant dramas of the day, and the Little Girl's Consent (1806).

Moratin, Nicolas Fernandez (1737-80), a Spanish poet, held a court appointment under Queen Elizabeth, which he renounced in 1772 in order to accept the chair of poetry at the Imperial College vacated by Avala. In Madrid he gathered round him a literary coterie, including Cadahalso, Muñoz, and Conti. best of his poems, which have the meticulous polish and purity of Gray's. are an ode to a champion bull-fighter and an epic canto on the destruction of his ships by Cortes.

Moravia (Ger. Mähren), a margravate and crownland of Austria, situated to the E. of Bohemia. It is watered by the March, a tributary of the Danube, which flows through the country from N. to S. Along its N. boundary run the Sudetic Mts.: on the W. are the Bohemian highlands, on the E. the Carpathians and White Mts. The country is principally engaged in agriculture, though there are rich mineral deposits of iron, lignite, coal, etc. Cereals of all kinds are extensively produced, and there is some woollen manufacture. Area 8583 sq. m. Pop. 2,620,914. For history, etc., see articles on Austria

and BOHEMIA.

Moravians, known also as The Moravian Brethren, The Bohemian Brethren, or The Unity of the Brethren (Unitas Fratrum), a small Protestant body who somewhat doubtfully trace their origin to the 15th century. In the middle of this century a section of the sect known as Taborites gathered round the Calixtine Bishop of Prague, and formally constituted themselves a sect in 1467. At the time of the Reformation they had friendly intercourse with Luther, though their sympathies were, on the whole, more with the reformed churches. At this time there were some 400 churches in the sect. During the persecutions of the 16th century many of the brethren fied to Poland, where they were gradually absorbed into other Protestant bodies. In the first quarter of the 17th century the Bohemians and M., being implicated in the revolution which came to an untimely end in 1620, were almost completely exterminated. No more is heard of them until the beginning of the next century. Then under the leadership of Christian David, a carpenter, certain M. emigrated to Saxony, where they were well received by Count Zinzendorf (1700-60), who then became their leader. Here they lived at first as ordinary Lutherans, but later greated a charge of their but later erected a church of their own. They lived a strict life. with daily prayers, a community of interests and strict exclusiveness. They still retained the form of the episcopate. Branches have now been

established in other parts, and the 1821), an Italian author, became a unity has now four provinces: German, British, N. American, and S. American, each province managing its own affairs. Once in ten years, a general synod meets, representing all the provinces. The Moravian Church has always been characterised by its splendid missionary vigour. See histories of the brethren by Gindely (1856-57), Schweinitz (1885), Croger (1854), Hamilton, and Thompson.

(1854), Hamilton, and Thompson.
Moray (or Murray), James Stuart,
Earl of (c. 1531-70), regent of Scotland, was the natural son of James
V. of Scotland by Lady Margaret
Erskine, daughter of the fourth Earl
of Mar. On hearing John Knox at
Calder, he joined the lords of the
congregation (1559) in opposition to
the queen regent's party. In 1561
he escorted his half-sister, Queen
Mary, from Paris to Scotland, and
became her chief adviser. He was
created Earl of Moray in 1564, but
lost the queen's favour when he lost the queen's favour when he showed his disapproval of her marriage with Darnley (1565). After the murder of Rizzio he was re-stored to favour, but made his escape to France at the time of Darnley's assassination and Mary's marriage to Bothwell. After the abdication of Mary at Lochleven, he was summoned to Scotland to take up the duties of regent, and after her escape defeated the queen's forces at Lang-side in 1568. He came to England to bring accusations against Mary at her trial. He was murdered at Linlithgow by James Hamilton of Bothwell-haugh, and was buried in St. Giles Cathedral, Edinburgh. See J. A. Froude's History of England.

Moray Firth, an arm of the North entrance, from Tarbat Ness to Burghead. The Spey and the Deveron are the chief rivers draining into the Firth.

Morbinan, a dept., named after the Gulf of Morbinan (Inner Sea), formed in 1790 from part of Lower Brittany in Western France. The Atlantic coast line has many inlets. The Vilaine and the Blavet, into which flow the August and the Scoot in flow the Auray and the Scorff, are both canalised, whilst the Oust forms part of the waterway from Nantes to Brest. The highest land (975 ft.) is in More, Henry (1614-87), an English philosopher, born at Grantham, Linthe Montagnes Noires of the N. Barren heath covers a quarter of the province, whilst a third part produces good crops of wheat, rye, buckwheat, and mangels. The fisher culture are important. capital; Lorient is a

Jesuit, and on the suppression of his order, was appointed librarian to Cardinal Albani (1773), and in 1790 was chosen provost of the chapter in his native city of Chiari, near Brescia.

As a church historian, M. is remembered membered ecclesiæ and his A

voluminous Opera Epigraphica were collected at Padua, 1818-1825.

Morchenstern, a com. of Bohemia, Austria, 9 m. S.E. by E. of Reichen-berg, on a feeder of the R. Iser. Has glass works. Pop. 8145.

Morchingen, a com. and vil. of Germany in Lorraine, 19 m. S.E. of Metz. Pop. 6967.

Morcone, a tn. of Italy in the prov. of Benevento, 45 m. S.W. of Foggia. Pop. 8600.

Mordaunt, Charles. sec PETER-BOROUGH.

Mordvins, a people of Finnish origin, inhabiting Eastern Until the middle of the 18th century they were practically pagans, but they are now greatly intermingled with the Russians, and comprise two main divisions, viz. the Moksha and the Erzya. They are of medium height, with fair skins, blue eyes, and generally oval faces, and they number about 750,000.

More, Hannah (1745 - 1833), an author, born at Stapleton, Gloucestershire. She came to London in 1774, and made the acquaintance of Dr. Johnson, whom she flattered unduly, of Burke, and the leaders of the Bluestocking coterie. Garrick produced her tragedy, *Percy*, in 1777, but after the actor's death she came to the conclusion that play-going was immoral, and she henceforth led a retired life. She consorted chiefly with the elegrand while the product of the consorted chiefly with the clergy and philanthropists, started Sunday schools in Cheshire, and organised a movement that led to the formation of the Religious Tract Society (1799). She wrote many religious works, and left her fortune to charities and religious institutions. There are biographies by William Roberts (1838) and the Rev. Henry Thompson (1838).

capital; Lorient is a are all penetrated with centre. These towns, Pontivy and Ploerme, names to the four arrondissements. Area 2738 sq. m. Pop. 578,400.

Morcelli, Stefano Antonio (1737- Lady Conway, the Quaker. nd Enchiridion Mela-are all penetrated with

More, Sir Thomas (1478-1535), 1Lord Chancellor, born in London, was called to the bar in 1496, and soon made a name for himself as a He entered parliament in 1504, and began to take an active interest. While on a mission to Flanders he began to write his most Utopia, which was famous work, published in the following year. parliament he frequently opposed the crown, until, in 1518, Henry VIII. appointed him Master of Requests and made him a privy councillor. He accompanied the king to the Field of the Cloth of Gold in 1520, and was in 1521 knighted. He rose in favour at court, and in 1529 succeeded Wolsey as Lord Chancellor of England, in



SIR THOMAS MORE

which capacity he showed great ability. He was, however, too con-scientious for the comfort of the monarch, and resigned his high office after his opposition to a bill designed to relax the severity of the heresy laws. For a while he lived in retirement, devoting his energies to a controversy on religious subjects with Tyndale and others. In 1534 he became a marked figure by his hostility to any action of the king against the pope's authority, and he was committed to the Tower. After much attempted negotiation, he was in-dicted for high treason in Westminster Hall, found guilty, and sentenced to be hanged. The sentence was eventually commuted to de-capitation. A patron of art, an excellent writer, a sound lawyer, and

(1891), and another by W. H. Hutton (1895).

Morea (the ancient Peloponnesus, the island of Pelops), a peninsula forming the southern part of Greece (q.v.), connected with Contral Greece by the Isthmus of Corinth. The surface is mountainous. Area 8288 sq. m. Patras is the chief port.

Moréas, Jean (1856-1910), a French poet and novelist, born at Athens. Early left Greece for Marseilles, and thence travelled over Germany, Italy, and Switzerland, finally installing himself permanently in the Latin quarter of Paris. His acquaintance-ship with Verlaine inclined him in such carlier work as Le Pelèrin Passioné to the symbolist as opposed to the realistic school; but, believing the former to have no enduring literary quality, he turned to the old mediæval-romantic style, producing in that vein his Contes de la vieille France (1903). But his best work is a reversion to the classical precision of Malesherbes and Corneille, and includes Iphigénie à Aulcs, 1904, and

Stances (6 vols.), 1905. Moreau, Gustave (1826 - 98), a in Paris. On French painter, born in Paris. On four occasions he won prize medals at the Salon, where he regularly exhibited. At his death he left 8000 pictures, water-colours, and drawings to the nation, this fine collection being housed in the Moreau Gallery, Paris. In his early pictures, such as a 'Pieta' (1852) and the 'Death of Darius,' he expresses his indebted-Darius,' he expresses his indebtedness to Chassériau. One of his finest paintings was 'The Young Man and Death' (1866). His subjects were chiefly taken from classical or religious story; among his best-known works are: the 'Athenians with the Minotaur,' 1855; 'Œdipus and the Sphinx,' 1864; 'Galatea,' 1880; and 'Moses on the Nile,' 1878.

Moreau. Jean Victor (1761-1813), a

Noses on the Nile, 1878.
Moreau, Jean Victor (1761-1813), a
French general, born at Morlaix, in
Bretagne. He took the side of the
Revolution, and displayed such military talent that in 1794 he was made
a general of division. When Pichegru
fell under suspicion, the Directory
appointed M., in 1796, to the chiefcommand on the Rhine and Moselle.
He defeated Latour at Rastadt. and He defeated Latour at Rastadt, and the Archduke Charles at Ettlingen, and drove the Austrians back to the Danube. A suspicion of participation in the plots of Pichegru led to his being deprived of his command, after the coup d'état of 18th Fructidor. In the following year he succeeded Scherer in the command of the army in Italy. By a retreat conducted with consummateskill, hesaved the French army from destruction. The Direca capable statesman, he was a great consummate skill, he saved the French loss to his country. There are several army from destruction. The Directiographies, including one by Bridgett tory, nevertheless, deprived him of

the chief command, and gave it to But M. remained with the Joubert. army, and aided that young general; and after his death again assumed the command, and conducted the de-feated troops to France. The noble disinterestedness of M.'s character, his military talent, and his political moderation, induced the party which overthrew the Directory to offer him the dictatorship of France, which he declined, and lent his assistance to Bonaparte on 18th Brumaire. M. gained victory after victory over the Austrians in the campaign of 1800, and won the battle of Holenlinden. A strong feeling of mutual distrust now arose between M. and Bonaparte. Bonaparte surrounded him with spies. and he was accused of participation in the plot of Cadoudal and Pichegru against the life of the first consul. He was arrested, sentenced to two years' imprisonment, which was commuted into banishment, and M. went to America. He, however, landed at Gothenburg (1813), and accompanied the emperor of Russia and the king of Prussia in the march against Dresden, wherea French cannon ball broke both his legs, and he died soon afterwards.

Morecambe, a municipal bor. and watering-place of N.W. Lancashire, England, on Morecambe Bay, 31 m. W.N.W. of Lancaster. Pop. (1911)

12,133.

Moree, a tn. of New South Wales, Australia, in Courallie co., 130 m. N.W. by W. of Tamworth. Pop. 2300.

Morel, or Morchella, a genus of fungi, of which the common M. (M. esculenta) is one of the most delicate edible British fungi. The cap is much wrinkled and ridged, and is attached to the stem from centre to edge. It is yellowish or buff in colour, and somewhat resembles a mass of honey-comb. Ms. are often dried for season-

ing soups, sauces, and gravies, and are commonly used fresh in ragouts.
Morelia, or Valladolia, a city of Mexico and the cap. of Michoacan state, 126 m. W.N.W. of the city of Mexico. It was renamed in honour of General Morelos. There are manufs. of sugar, blankets, and pottery Pop.

39,116.

Morell, Thomas (1703 - Sassical scholar, born at (1703 - \$4),classical scholar, born at Eton, Bucks. In 1737 he became rector of Buckland, Herts, and in 1775 was appointed chaplain to the garrison at Portsmouth. His writings include: Thesaurus Græcæ Poeseos; Sacred Annals; Notes and Annotations on Locke on the Human Understanding,

Morella, a fort. tn. of Spain in the prov. of Castillon, 36 m. S.W. of Tortosa. It possesses an ancient castle. Pop. 7500.

Morelli, Cosimo (1732-1812), an Italian architect, born at Imola, Italy. In his native city, M. designed the cathedral, two other churches, a hospital, and a theatre, since de-stroyed. He built also the duomo at Macerata, the Berio at Naples, and

the Palazzo Braschi at Rome, Morelli, Giacomo (1745-1819), an Italian bibliographer, born at Venice. He entered the priesthood, and remained always a simple abbé, partly it seems, because of his modesty and partly because of his devouring partity because of his devouring passion for books. After editing the manuscripts of his friend, Farsetti (1771-80), and cataloguing both the classical and Italian manuscripts in the possession of the Narni family, headened in 1772 transmit family, headened in 1772 transmit family, he became in 1778 keeper of St. Mark's Library in Venice.

Morelli, Giovanni (1816-91), an Italian patriot and art critic, was born at Verona. He exercised his influence as a member of parliament to pass the Morelli Bill, which was directed against the alienation of works of art. In his Die Werke italienischer Meister in den Galerien von München, Dresden, und Berlin, and again in his Della Pitturiaitaliana, he emphasised the need of making a careful study of ears, hands, and all detail, especially where the authorship of a painting was in question.

Morelos: 1. A state of Mexico, bounded by Mexico, Puebla, and

Guerrero, and covering an area of 2776 sq. m. In the S., where it is fertile, coffee, sugar, and grains are fertile, coffee, sugar, and grains are extensively cultivated, but the N. part is mountainous. Cuernavaea is the cap. Pop. 179,814. 2. A tn. in the state of Nuevo Leon, Mexico, 45 m. S.E. of Monterey. Pop. 7000. Morena, Sierra, a range of mountains in Spain, stretching E. to W. between Guadiana and Guadalquivir. Mingrals abound. Alt. 7900 ft.

Minerals abound. Alt. 7900 ft.
Morenci, a fn. of Arizona, U.S. A., in
Graham co., 100 m. S. of St. Johns.
Pop. (1910) 5010.

Moreri, Louis (1643-80), a French writer, born in Provence. In 1674 he published his *Grand Dictionnaire Historique*, which was widely translated. The twentieth and best edition of this encyclopædia (published in 1759) is still consulted for biographies.

Moresnet, or Kelmis, a tn. and neutral territory between Prussia neutral territory between Prussia and Belgium, 5 m. S.W. of Aix-la-Chapelle. It was formed in 1816, being under the joint control of the two governments, and represented by a burgomaster. There are valuable lead and zinc mines, and the in-habitants are chiefly occupied in the hat manuf. Area 70 acres. Pop. 3500.
Moreton Bay, a bay on the E. coast
of Queensland, Australia, 40 m. by

It was discovered by Cook in 1770.

Moreto y Cabaña, Agustin (1618-69), a Spanish dramatist, born at Madrid. He was a disciple of Calderon. His finest comedy is El Desden con el Desden (Disdain met with Disdain). but his fund of humour, his excellent characterisation, and his animation, are also apparent in The Handsome Don Diego, the heroic Brave Justiciary of Castile, and the farcical Trampa Adelante.

Moretto, commonly known as Alessandro Bonvicino (c. 1498-c.1555), an oil, fresco, and portrait painter, born in Royato, Brescia, Italy. He studied under Ferramola, in Venice under John Bellini and Titian; eventually he became a devoted admirer of Raphael, but it is not known that he ever visited Rome. Vasari says of his work, 'His heads are vigorous, in Raphael's style, though of very inferior excellence.' Moroni was a pupil of M. See galleries, Brescia, Florence, Venice, Verona, Berlin, Paris, St. Petersburg, Vienna, and the National Gallery, London, which contains a fine altar-piece.

Morfill, William Richard (1835-

Morfill, 1909), an English Slavonic scholar, born at Maidstone, Kent. Early in life he became interested in languages. literature, and Slav history, and acquired a considerable knowledge of Russian. In 1900 he was appointed professor of Russian and Slavonic languages. His publications include: Slavonic Literature, a History of Russia from Peter the Great to Alexander II., contributions to the Ency. Brit., and grammars of Polish, Rus-Servian, Bulgarian, Bohemian.

Morgagni, Giovanni Battista (1682-1771), an Italian anatomist, born at Forli. In 1716 he became professor of anatomy at Padua, a position he retained till his death. His reputation was made by his Adversaria anatomica, first published in 1706, and he may be considered as the founder of pathological anatomy, his great work De Ledibus et causis morborum per anatomen indagatis, published in 1761, establishing pathological anatomy as a science. See Biography by Mo (1768).

Morgain, or Morgue le Fay, witch of Arthurian legend, and sis of King Arthur, also known as Fata their manners and customs. He pub-(fairy) Morgana, in the Italian ro-lished in 1851 The League of the mances. In the romance of Morle Iroquois, containing the result of his d'Arthur she is the chief character, and discovered to Arthur the intrigue of Genevra with Lancelot. She is a leading personage in other tales of chivalry, and ous traditions in connectior

17 m., which is formed inside the character have come down to us islands of Moreton and Stradbroke, somewhat confused.

Morgam, a par. of Glamorganshire, Wales, S.É. of Aberavon. Coal is found in the vicinity. Pop. about

10,000. Morgan, Augustus de. see DE

MORGAN. Morgan, Sir George Osborne (1826-97), a British politician and lawyer, born at Gothenburg, Sweden. Called to the bar in 1853, he published Chancery Acts and Orders in 1858. In 1861 he published a lecture on the Italian Revolution of the previous year. He was an advanced Liberal and was chosen M.P. for Denbighshire in 1868, being returned again in 1885, 1886, and 1892. From 1885-86 he was Under-Secretary for the Colonies, and founded the Emigration Enquiry Office. He retired from office in 1892, and was created a baronet.

Morgan, Sir Henry (c. 1635-88), a buccaneer, born in Merionethshire; the son of a farmer. Early in life he went to sea, and visited Barbadoes and Jamaica, whence he commenced to ravage the Spanish colonies. He took and plundered Porto Bello (1668) and captured Panama. Complaints were received in England from the Spanish people of S. America, and M. was ordered to return to England to answer the charges made against him. He was sent to the Tower, but was soon afterwards released and was knighted by Charles II, in 1674, receiving the commission of lieutenant-general of Jamaica. He returned to Jamaica, where he died. Morgan, John Pierpont (1837-1913),

an American financier, born at Harf-ford, Connecticut, U.S.A. In 1857 he entered the bank of Duncan, Sher-man and Co., and in 1871 became a member of the firm of Drexel, Morgan and Co., now Morgan and Co., the great bankers of the United States. In 1901 he formed the Steel Trust with a capital of £220,000,000, and he was the controller of railways and ocean transportation lines. He had a vast collection of pictures and art treasures, and was a yachtsman.

Morgan, Lewis Henry (1818-81), an American ethnologist, born near Aurora, New York. He practised as

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began her literary career with a rolume of poems, which she set to Irish tunes, and then she wrote the novels, St. Clair, 1804, and The Novice of St. Dominick, 1806: followed by The Wild Irish Girl, which last established her resulting the stabilished her resulting the stabilish lished her reputation. In 1812 she married Charles Morgan, M.D., whom the lord-lieutenant knighted. years later appeared her best novel, O'Donnell. During the later years of her life she published Dramatic Scenes from Real Life; Woman and her Master: The Book without a Name: and Passages from my Autobiography. See Life by Fitzpatrick.

Morgana Fata, see FATA MORGANA. Morganatic Marriage, the name given to a marriage union, otherwise perfectly regular, between a man of the blood of a reigning royal family and a woman of lower social rank, e.g. the marriage of George IV. of England, when Prince of Wales, with Mrs. Fitzherbert. The issue of a M. M. are legitimate, though they are debarred from inheriting the rank and property

of the father.

Morgan City, a tn. and port of entry. Louisiana, U.S.A., on the E. bank of Atchafalaya Bayou, 20 m. from the Gulf of Mexico. Pop. (1910) 5477. Pop. (1910) 5477. Gulf of Mexico. Morgan Combine, see ATLANTIC

SHIPPING TRUST.

Morgantown, a city of W. Virginia, U.S.A., in Monongalia co., 60 m. S. of Pittsburg. The W. Virginia state of Pittsburg. university was founded here in 1867. Pop. (1910) 9150.

Morgarten, a locality on the S.E. shore of Lake Ægeri, Switzerland. In 1315 the Swiss here defeated an army

under Leopold of Austria.

Vaples. In .el's symoetry and He also of Titian, Da Vinci, combines

exquisite delicacy and remarkable clearness. In 1794 he founded a school of engraving at Florence, at the invitation of Ferdinand III., grand-duke of Tuscany. Napoleon invited M. to Paris, and made him a more of the Institute of France. member of the Institute of France.

from Guido. See Morghen's Engraved

Works, edited by Halsey, 1885. Morgue, La, a building in Paris, behind the cathedral of Notre Dame, where unknown bodies, either found in the streets or recovered from the Seine, are exposed for identification. After three days, if not claimed, they are buried.

Morhof, Daniel Georg (1639-91), a German author, born at Wismar. In 1660 he was appointed to the chair of poetry at Rostock. In 1665 he became professor of eloquence and poetry at Kiel, and in 1673 he was appointed professor of history in the same university. His most famous works are: Unterricht von der deutschen Sprache und Poesie (1682), a history European systematic of literature, and Polyhistor, sive de auctorum notitia et rerum commentarii (1688), an encyclopædia of general knowledge and science. There is a knowledge and science. biography of M. by R. von Liliencron in Allgem. Deutsche Biographie (1885).

Morier, James Justinian (c. 1780-1849), a traveller and novelist; secretary to the British ambassador, 1810, and during the six years of his residence in Persia he became thoroughly acquainted with the character of the natives. Published Journey through Persia, 1808-9, in 1812. The best of

his eastern novels, entitled The Adventures of Hajji Babá of Ispahan, appeared in 1824 (3 vols.).

Morier, Sir Robert Burnett David (1826-93), a British diplomatist, born in Paris, but was educated at Balliol College, Oxford, and took degree in 1849. In 1851 he entered diplomatic service, and subsequently held various appointments at German courts. His knowledge of German politics was unrivalled. In 1876 he was transferred to Lisbon as English minister, which office he held until 1881, and then at Madrid from 1881-84. From 1884-91 he was ambassador to St. Petersburg, and at this time enmity sprang up between himself and Bismarck. At the outbreak of the Franco-Prussian War M. was wrongfully accused by Count H. Bismarck (q.v.) of giving information to Bazaine (q.v.).

Mőrike, Edouard (1804-75), a German poet, born at Ludwigsburg. Appointed professor of literature at the Katharinenstift, Stuttgart. 1851, an office he held for sixteen years. He belonged to the Swabian school of Uhland, and his Gedichte are, for the most part, simple lyrics, graceful in style, and original in conception.

Morin (or Morinus), Jean, a French writer and theologian, born at Blois. He was a Protestant clergyman at but Leyden, was converted Catholicism and became a priest of the Oratory at Paris in 1618. He edited the Paris Polygott (1645), which includes the Samaritan Pentateuch and the Targum. M. claimed the superiority of the Samaritan over the Hebrew version. He also wrote a Samaritan grammar and Exercitationes on the Hebrew and Greek texts of the Bible. A Memoir of M. is

Morioka, a tn. of Hondo, Japan, 85 m. S.E. of Aomori. It is noted for

its silks. Pop. 33,000.

Morison, James Augustus Cotter (1832-88), an English author, born in He was a disciple of positivism, in this connection writing his last work, The Samies of Essay Toward.

Future.He w Review and Fo

published: Life and Times of St. Bernard; Lives of Gibbon and Macaulay and of Mme. de Maintenon,

Morison, Robert (1620-83), a Scotch botanist and physician. born He took arms as Aberdeen. rovalist and retired to France. Τn 1650 he became physician in the household of the Duke of Orleans and a keeper of the duke's garden at Blois. Later he came to England and was appointed physician to Charles II. on the Restoration, and also professor of botany at Oxford. His most important work is Plantarum Historia Universalis Oxoniensis. He also wrote Præludia Botanica Plantarum Umbelliferarum Distributio nova, etc.

Morlaix, a scaport of France, off the N. coast of Brittany, cap. of the dept. of Finistere, and 33 m. E.N.E. of Brest. Many of the houses date from the 15th century. The chief

manufs. are tobacco and paper, and it trades with England in butter, eggs, cattle, etc. Pop. 16,000.
Morland, George (1763-1804), an English painter, born in London. He left his home in 1782 and abandoned himself to a disablet and branches. himself to a dissolute and irresponsible mode of life, which renders his artistic achievement all the more remarkable. Indeed, debt seems to have been his greatest incentive to work. His pictures deal with the mellower aspect of domestic and rustic life, and reveal great beauty of conception and harmony of execu-In his animal studies he approaches very near to Landseer. Of his many fine pictures 'The Gypsies' and 'Inside of a Stable' are representative. See F. W. Blagdon's Memoirs of George Morland (1806). His Life has been written by Williamson (1904) and Dawe (new ed. 1904). Morland, Sir Samuel (c. 1625-?1695),

a diplomatist, mathematician, and inventor, born at Sulhampstead-Bannister, Berkshire. He was sent on several embassies by Cromwell to redress the wrongs inflicted on the Waldenses by the Duke of Savoy, and subsequently published.

prefixed to the Exercitationes (ed. soon became an ardent promoter of the Restoration. Charles II. appointed M. to be his magister mechanicorum, and he is credited with many important inventions, e.g. an

arithmetical machine.

Morlanwelz, a tn. in the prov. of
Hainault. Belgium, 15 m. E. by rail of
Monz. There are ruins of a 13th-----ry abbey. There are foundries, eering works, rolling mills, and works in the town, and coal near. Pop. 8500.

Morley, a municipal bor. of the West Riding, Yorkshire, England, 5 m. S.S.W. of Leeds. Machinery and woollen goods are manufactured. There are coal mines and stone

There are coal mines and stone quarries. Pop. (1911) 24,285.
Morley, Arnold (b. 1849). an English statesman, and fourth son of Samuel M., the philanthropist and politician. In 1880 he entered parliament as M.P. for Nottingham in the Liberal interests, and sat from 1885-95 for E. Nottingham. He held the offices of Home Office counsel in colliery accident inquiries (1880-85), chief Liberal whip (1886-92), and Postmaster-General (1892-95).

Morley, Henry (1822-94), an English critic and man of letters, born in London. His How to Make Home Unhealthy attracted the attention of London. Dickens, who secured him a position on the staff of Household Words and All the Fear Round (1850-65). M. was also editor of The Examiner. He was also editor of The Examiner. He was elected professor of English at King's College (1857), at University College (1858), and at Queen's (1878), and in 1882 he became principal of University Hall, London. He wrote the biographies of Jerome Cardan, Cornellus Agrippa, and Clement Cornelius Agrippa, and Clement Marot. His First Sketch of English Literature commanded great popularity. He was also the editor of Morley's Universal Library (63 vols.), Cassell's National Library (214 vols.), and the Carisbrooke Library. Life of Henry Morley has written by Solly (1898).

Morley, Samuel (1809-86), an English politician, born in London. He lish politician, born in London. He was a prominent dissenter, philanthropist, and temperance advocate. In 1865 he became M.P. for Nottingham, but was unscated on petition in 1866; and was M.P. for Bristol, 1868-85. He was proprietor of the Daily News, and a member of the London School Board, 1870-6.

Morley, Thomas (1557-1602 or 1603), an English musician, studied under Byrd. After being organist at St. Paul's, he was appointed to the Chapel Royal (1592); and six Years later.

and subsequently published an Royal (1592); and six years later account of his experiences. On his he was granted a twenty-one years' return to England his enthusiasm for the Commonwealth cooled, and he cession to Byrd. He excelled as a ed an Royal (1592); and six years later On his he was granted a twenty-one years' 347

composer in madrigals, but he also Diderot devoted considerable attention to church music and to instrumental Some of his work composition. appears in the Fitzwilliam Virginal Book; and he wrote some of the original music for the productions of Shakespeare, with whom he was personally acquainted. His theoretical treatise (1597) had great contemporary

influence. Morley of Blackburn, John Morley, first Viscount (b. 1838), an English statesman and man of letters, born at Blackburn, son of Dr. Jonathan M.; educated at Lincoln College, M.; educated at Lincoin Conege, Oxford; degree, 1859. He became quickly known in the literary world of London, being editor of the *Literary Gazette*, the daily *Morning Star*, and in 1867 succeeded G. H. Lewes in the editorship of the Fortnightly Review. In 1878 he edited for Macmillan the English Men of Letters series, his own volume on Edmund Burke being one of the most masterly of that fine series. In 1880 he became editor of series. In 1880 he became eather of the Pall Mall Gazette, on which paper Mr. Alfred (now Lord) Milner and the late Mr. W. T. Stead were members of the staff. In 1883 he was elected as a Liberal for Newcastle-on-Tyne; his intellectual weight, his powerful pen, and the influential position he held as an uncompromising exponent of philosophic Radicalism marked him for office, and in 1886, a canonised Home Ruler, he became Irish Secretary in Mr. Gladstone's cabinet, an office which he occupied again in 1892, after the defeat on Home Rule in the general election of 1886. In 1895 he was defeated as an anti-Imperialist for Newcastle, but was returned for Montrose Burghs. He stood somewhat apart from politics during the Unionist administration from 1895-1906, being engaged on his Life of Gladstone, published 1903, a masterpiece of political biography, but he was a streng convert of the but he was a strong opponent of the Boer War policy. In Sir H. Campbell-Bannerman's cabinet, 1906, M. became Secretary of State for India, in which capacity he met the outbreak of disorder with firmness, at the same time proceeding with his own plan for meeting the national demand for a widened share in the government. In Mr. Asquith's first cabinet, 1908, he was raised to the peerage, still retaining the India office, but in 1910 his age and health forced him to hand that office to Lord Crewe, while re-maining in the cabinet as Lord President of the Council. M. was one of the original recipients of the Order of Merit at the coronation of King Edward VII., 1902. Besides the works mentioned above, he wrote: 1873: 1872; Rousseau.

andthe Encyclopædists. 1878; Life of Cobden, 1881; Walpole, 1889; Life of Cromwell, 1900. Mormon, Book of. In September

1823, Joseph Smith told of a vision he had received of a new gospel written on two gold plates, and after a series of other visions he claims in 1827 to have been given these plates written in 'reformed Egyptian.' He was enabled to translate this with the aid of the ancient stones of divination, the Urim and Thummim which were also given him. The translation is known as the Book of Mormon, and after this had been made the plates, etc., were returned to an angel. Unbelievers, however, have declared that the Book of Mormon is clearly founded on an unprinted book by Solomon Spaulding, to which Smith might have obtained access. Book purports to give a history of religion in the American continent from the time of Babel downwards to

from the time of Babel downwards to the 5th century A.D. It had been written by the prophet Mormon, and hidden by his son Moroni.

Mormon Church, called by its adherents 'The Church of Jesus Christ of Latter-Day Saints,' or shortly 'Latter-Day Saints,' was founded in the year 1830 by one Joseph Smith in the U.S.A. About 1820, while living at Manchester, New York, Smith claimed, during a period of religious revival, to have received a vision of God the Father and God the vision of God the Father and God the These visions continued, and Son. the further revelation of the Book of Mormon (q.v.) was made to him in 1827. In 1830 he founded his sect. For a sketch of its history since that date see Mormons. In 1833 the Book of Doctrines and Covenants was published. This, with the Book of Mormon, forms the basis of the Mormon belief. This is grossly materialistic. The theology reminds one at the first glance of the Gnostic systems, with its numberless gods springing from a male and a female deity. The hierarchy is divided into two parts, the priesthood of Melchisedec and the Aaronic or Levitical priesthood. To the former belong the first presidency, patriarch, apostles, seventies, high priests, and elders; to the latter, bishops, priests, deacons, and teachers. The former is the more exalted, and the first president is supreme. Mormons have carried on an energetic propaganda in Europeas well as in the States. The number of them can be estimated at about (1910) 400,650. Besides works mentioned, see also The Pearl of Great Price (1851), a selection of Smith's 'revelations.'

Mormons, History of the. After the foundation of the sect in 1830, a vigorous propaganda was carried on

much success, among the converts being Brigham Young, who succeeded Smith as first president. In 1831 the whole body of saints moved to Kirtland, Ohio, later moving further west to Jackson co., Missouri, where 'Zion the New Jerusalem' was founded. The prophet himself had trouble at Kirtland, where he managed several business enterprises. Here he and Rigdon, one of his chief followers, were tarred and feathered by the mob in 1832. The people also rose against the saints in Jackson co. the first missionary enterprise was started, England being its object. The same year saw the failure of the bank which Smith had started. During the next year, after a conflict between themselves and the mob, the saints came into conflict with the government and were driven into Illinois. A settlement was made at Nauvoo, and the body increased so rapidly that it soon numbered 15,000. In 1841 a temple was commenced In 1843 Smith incited his followers to destroy the offices of a newspaper which had written against him, and was imprisoned in consequence at Carthage. Here the mob rushed the prison, and he and his brother Hyrum were shot. In 1845 the Mormons left Nauvoo and settled at Salt Lake City (1847), under the leadership of Brigham Young. Young died in 1877 after a period of strenuous conflict with natives and govern-Four other presidents have succeeded him, the present one being Joseph F. Smith. The chief opposi-Joseph F. Smith. The chier opposi-tion to the Mormons has been pro-voked by their advocacy of polygamy. In theory this has now been given up, and a pronouncement was made against it by the president in 1904. See Mayhew's Life of Joseph Smith; Mackay's The Mormons; Olshausen's Geschichte der Mormonen; and Elder Organ's Letters whitting the most are Orson's Letters exhibiting the most prominent Doctrines of the Church.

Morne-à-l'Eau, a maritime vil. of Guadeloupe, W. Indies, a few miles from Pointe-à-Pitre, on the island of Grande-Serre. Pop. 6500.

Morning Glory, see Convolvolus. year. In 1760 he was raised to the Morning Post, a prominent Conservative penny daily, which enjoys Dangan Castle, and Earl of Morning the distinction of being the oldest of the Morning the Conservative penny daily, which enjoys Dangan Castle, and Earl of Morning the distinction of being the oldest of the Morning Conservation of the servative penny dany, the distinction of being the oldest of the existing London dailles, having started in 1772 as the rival of the celebrated Morning Chronicle (see politician, born in Paris; reported to under Newspapers). It is, at present day, notable for court present day, notable for court case a legacy from the left the service the left the service centroot-sugar fac-

in the States, and was crowned with | graphs of court doings and the movements in the world of fashion, set the new paper on the high road to popularity. (See further on early history of the paper, Pebody's English Journa-lism, 1878.) Charles Lamb, Samuel Taylor Coleridge, Robert Southey, Wordsworth, and Sir James Mackintosh were noted contributors. present-day prosperity is largely the result of the industry of the Glenesk family, the first of which, Peter Borthwick, a Scotsman and member of parliament for an English constituency, undertook the management of the paper in 1847, but died before being able to accomplish much. His successor was Algernon Borthwick. subsequently Lord Glenesk, who by unremitting efforts actually freed the paper from its heavy debts which had gradually accumulated. In 1877 Borthwick became sole proprietor, and from the time he reduced its price from 3d. to 1d. the paper's success became prodigious, and its present character as a powerful Conservative organ, permeated by inspired news of movements in fashionable circles, was due primarily to Algernon Borthwick's own social prestige and political acumen. From 1897-1905 the paper was fortunate in having as its editor Mr. James Nicol Dunn, now editor of the Johannesburg Star; and during the Boer War it gained a fremendous vogue from the messages of its war correspondent. Mr. Winston Churchill, who filled many columns with the account of his escape, after being taken prisoner by the Boer forces. The paper is now

> Mornington, a hamlet of co. Meath, Ireland, on R. Boyne, 3 m. E. of Drogheda. Garrett Wellesley, first Earl of Mornington, was son of Richard Colley, first Baron Mornington, and father of the Duke of Wellington. He was educated at Trinity College, Dublin, and in 1757 became M.P. for Trim, co. Meath, in the Irish House of Commons, going to the House of Lords on his father's death the next

who became its editor in 1775, who, by his free and fearless comments upon the events of the day, no less than by his scintillating para-

supporter of Napoleon III., co-operated in the coup d'élat, and became Minister of the Interior. He was Législatif president of the Corps (1854-65), and ambassador to Russia (1856-57).

Antonio, or Sir Anthony Moro, Antonio, or Sir Anthony More (c. 1525-81), a painter, born at Utrecht. He studied under Titian in taly during 1550-51, and in 1552 visited Spain. In 1553 he came to England as painter to Queen Mary, remaining till her death in 1558, when he went into the service of Philip II. of Spain at Madrid. In 1568 he returned to Holland, and settled at Antwerp. He was a popular and suc-

cessful painter of portraits.

Morocco, or Marocco (El Maghrib el Aksa, the farthest west), the el Aksa, the farthest west), the largest of the Barbary states, with an area of (approximately) 219,000 English sq. m., and an estimated population of 5,000,000. It is situated in the N.W. corner of Africa, its northern coast being washed by the Mediterranean, and the W. by the Atlantic; the eastern boundary with Algeria has been settled by treaty with France, and the southern, touching the Sahara, is indeterminate. The country is traversed by several parallel ranges of the Atlas Mts., the highest point being Tizi-n-Tagharet (15,400 t).) in the Great Atlas. The northern Vopes of the ranges are well wooded, ind between them lie well-watered and fertile plains. The rivers flowing rom the northern slopes of the Atlas tre perennial, and of great commerthe perchanal, and of great commer-ial value; the Muluya, with its tribu-ary the Sharef, drains the N.E. of the country, and enters the Mediter-anean after a course of 400 m.; the bebou, by removal of a sandbank at ts mouth in 1905, was found to be avigable as far as Fcz (125 m.). Other rivers are the Um-er-Rebiah 230 m.), the Tensift (190 m.), the sus, the Ghir. and the Draa, all flowng into the Atlantic. The other rivers are lost in the sands of the desert. The Mediterranean coast is rocky, and contains many bays and inlets, in-luding the bays of Alhucemas, Fetuan, and Tangier, the last-named containing the best harbour in M. he most northerly point is the Penhe most northerly point is the Pen-isula of Ceuta, dominated by the ebel-Musa, one of the 'Pillars of iercules.' The Atlantic coast is low and sandy for the most part, the rade of the ports of Larache (El rish), Rabat (with Salli), Casa-lanca, Mazagan, Saff, and Mogador Chice creative, because during the lace ing greatly hampered by the lack

safe harbours.
The climate is good and undoubtlly healthy, especially on the Atntic coast, with a rainy season from

Legislative Assembly, was a staunch, September to April. The temperature at Mogador generally ranges from 60° in January to 75° in August. fruit-bearing trees include the datepalms, olive, fig, walnut, orange, lemon, plum, apricot, almond, and others. Other trees are the 'Citrus,' or gum sandarach, and the argan. found only near Mogador. Hitherto the strict prohibition of the export of grain has prevented the fertility of the soil from being greatly utilised; the cultivation of cereals, wheat, barley, maize, and of beans, peas, esparto, and hemp is largely increasing under French influence. mineral resources of the country are known to be great, and include anti-mony, iron, coal, copper, lead, tin, and small quantities of gold and silver, but native antagonism has hitherto prevented its exploitation. The wild animals include the leopard, bear, hyena, wild pig. The bustard, partridge, and water-fowl abound. The dromedary and horse are bred extensively, and also cattle, sheen. mules, asses, and goats.

The manufs. include leather, pottery, textiles, carpets, embroideries. copper and brass goods, silver filigree slippers, and shawls. The chief exports, which go to the United Kingdom, France, Spain, and Germany, are cereals, wool, hides, fruit, olive oil, cattle, fowls, eggs, wax, gums, Tafilet dates, and almonds, with a total value (1911) of £3,409,837; the

are very poor on the coast, and except the main highways to Fez and Marrákesh, scarcely exist in the interior.

Rabat, Casablanca, and Mogador. There are British, French, German, and Spanish postal agencies at the ports Fez and Marrákesh. Besides the open ports already mentioned, that of Mehedia is to be opened to commerce in 1913.

M. possesses three capitals: Fez (120,000) of the northern kingdom; Marrakesh, or Morocco City (60,000); and Mequinez, or Meknas (56,000). The inhabitants of the country, exclusive of some 25,000 Europeans (mainly French) and Jews (300,000) composing about one-fourth of the population of most of the towns, are divided into (1) Berbers, locally known as Amazigh, the original inhabitants, who now live mainly in the mountains; (2) Arabs, who invaded the

country in the 11th and 12th cen- | Moorish Empire, 1899, and The Moors, turies, and now inhabit the plains: (3) Moors of mixed Berber-Arab descent, who inhabit the towns: (4) Negroes, imported as slaves from the Western Sudan, and mulattoes. Berber or Shilkah is the language of the mountain districts, but Arabic is the tongue of the towns and plains. religion of the country is a strict form of Mohammedanism, much purer than

that practised in Turkey and Persia.

The known history of M. begins in the 8th century with the introduction of Islam and the establishment of the dynasty of a branch of Mohammed's family, the Idrisis, contemporary

\ succession most fam-

the Rifflan

and Almohades (q.v.), ended in that of Filali, originally Sherifs of Tafilet, which reigned from 1546 to the present day. Their government was an absolute despotism, opposed to all progress and corrupt in administration. European intervention has been compulsory at different periods, but during the latter part of the 19th century the influence of France was predominant, being formally recognised by Great Britain in the Anglo-French Convention of 1904. In 1905 the German emperor visited Tangier with the object, it was understood, of protesting against the Anglo-French agreement, and the tension between France and Germany became acute. In 1906 an International Conference was called at Algerias to define the interests of the various powers, and to establish order in M. by means of an organised police force. Between 1906 and 1911 there were various conflicts between the French troops and the at Melilla

the Sultan Abd-el-Aziz was defeated and deposed by his brother, Mulai Hafid, who was recognised by the powers in 1909. In 1911 fresh troubles broke out, Fez was besieged by the rebels, but relieved by the French (May 21), while a Spanish force at Larache dealt with the Riffian rebels. In July 1911 the German gunboat Panther anchored in Agadir harbour, ostensibly to protect German interests. After protra

France and evacuated all claims to

compensation in the Congo. in 1914 the Sultan Hafid abdicated, and was succeeded by his brother Mulai Tusef. M. is now a French Protectorate, with

1902; Canal's Géographie Générale du

Le Maroc d'Aujourd'hui, 1904 (Eng. trans.); Lorin's L'Afrique du Nord, 1906; Moore's Passing of Morocco, 1908.

Morocco, or Marrakesh, the southern capital of the Moorish empire, on the N. side of the Great Atlas range, 90 m. from the Atlantic coast, and 250 m. S.W. of Fez; has important manufs. of carpets and leather, and is the centre of the trade of Southern Morocco. The city was founded in 1072, and had a pop. of 700,000 in the 14th century, which has now declined to about 70,000.

Moron, a tn. of Cuba, W. Indies, 250 m. E.S.E. of Havana. Pop. 10,000.

Moron de la Frontera (ancient Arumi), a tn. of Seville, Spain, 32 m. S.E. of Seville. The district is noted

for its marble and chalk. Olive oil is

produced. Pop. 15,000. Moroni, Giambattista (1510-78), an Italian painter, born at Bondo, Bergamo; studied under Moretto. He was especially successful in portraitpainting, and was praised by Titian. Five of his works are in the National Gallery, London, including the ex-cellent 'Tailor.'

Morosini, an illustrious Venetian family, probably of Hungarian origin. Among the most famous members were: Domenico Morosini (doge, 1148-56), who recaptured Pola and other Istrian towns from the Dalmatian corsairs; Marino Morosini matian corsairs; Marino Morosini (doge, 1249-52), who introduced the Inquisition into Venice; Michele Morosini (doge, 1382), a celebrated financier; Andrea Morosini (1558-1618), who became historiographer to the republic (1598), was one of the Council of Ten, continued Paolo Paruta's Annali Veneti, and wrote a history of Venice, 1521-1615 (pub. 1623), and other works; and Francesco Morosini (1618-94), a great sea captain, who became doge in 1688.

Morpeth, a municipal and parl. bor. of Northumberland, England, 14 m. N. by W. of Newcastle. It has remains of a mediaval eastle and gateway; the parish church of St. Mary dates from the 14th century. There are large collieries in the neighbourhood, also iron-foundries and quarries. In the town are broweries, corn mills and flannel factories. M. has one of the most important cattle markets in the N. of England. Pop. (1911) park bor., 63.079; municipal bor., 7436.

Morphous (from Gk. Mopon, form)

in classic mythology, the son of Sleep and Night; the god of dreams, and creator of the visions of the sleepe-

Morphia, the popular name for the alkaloid morphine, C₁₇H₁₉NO₂. Morphine is contained in opium or the juice of poppy-heads (papaver somniferum). The opium extract is boiled with milk of lime and the product filtered. Morphine is contained in the filtrate, all the other alkaloids being precipitated. After digesting the filtrate with ammonium chloride to remove all trace of lime, the separate morphine is collected and re-crystallised from boiling alcohol. Morphine forms colourless prisms with one mole-cule of water of crystallisation; it is only slightly soluble in water and in cold alcohol, and on this account is used in medicine in the form of its salts, particularly the hydrochloride. Morphine is the most effective anodyne known to science, relieving pain and producing sleep either when ad-ministered by the mouth or injected hypodermically. One grain may be a fatal dose, but persons habituated to its use are capable of taking more than 15 grains a day. The effects of the morphia habit are moral degeneration, disturbance of secretions, lowering of physical and mental powers. The habit is most difficult to break, owing to the moral weakness of the victim: the sudden withdrawal of the drug is highly dangerous, and the only cure is the gradual diminution of the dose under circumstances which render it impossible for the patient to obtain more than his allowance.

Morphology concerns itself with the analysis of any organism into its parts, and is not concerned with the life which produced or is anism. Thus it

biology which f form or strucas opposed to

physiology, which is concerned with the functioning of those parts described by M. Expressed in another way, M. is the 'statics' and physiology the 'dynamics' of the organism. Under biology (q.v.) it will be seen how M. leads by study of the organism through the organs, tissues, cells to the protoplasm; and how, by a Corresponding process in physiology to the protoplasm: and how, by a of G. Morris, with Selections from the corresponding process in physiology Papers . . , 1832; Roosevelt, Life and a linking of the two together, we (American Statesmen Series, 1888; arrive at embryology. When M. is new cd. 1900): Duyckinck, Cyclop. of concerned with organist histology, and when wit 1832); Diary and Letter by his grand-daughter,

HOMOLOGY, HISTOL THEORY, and PHYSIOLOGY.

chess player. See CHESS.

Morris, Rt. Hon. Sir Edward, Kt., in 1861, practising till 1881. Always K.C., LL.D. (b. 1859), a deputy-chancellor foundland, bord adjusted. foundland, and educated

aventure College, St. John's, and the University of Ottawa. In 1884 he became a solicitor of the Supreme Court, and was called to the bar in 1885, since which year he has sat in parliament for St. John's. In 1889 he became a member of the cabinet. but left his party on the vote for the Reid railway contract, which he was mainly instrumental in carrying. From 1898-1900 he was leader of the Independent Liberal party, but held a seat in the cabinet from 1900-7. In the following year he became leader of the People's party. From 1902-7 he was Attorney-General and Administrator of Justice, whilst from 1909 he has been Premier of New-foundland. He represented New-foundland at the Imperial Defence Conference in 1909, and also at the Imperial Conference and the coronation in 1911.

Morris, George Perkins (1802-64), an American journalist and author, born in Philadelphia. He went to New York, and in conjunction with W. P. Willis founded and edited The New York Mirror (1923), New Mirror (1843), Evening Mirror (1844), and National Press, which became the Home Journal (1845). He wrote stories and poems, including Wood-man, spare that Tree.

Morris, Gouverneur (1752-1816), an American diplomat and statesman called to the bar in 1771. He had joined the patriotic party by 1775, and sat in the Continental Congress (1777-80). He became assistantfinancier to Robert Morris (1781-85), after publishing a series of essays on American finances in the Pennsylvania Packet (1780), and practically founded the national coinage. M. helped to draw up and revise the document setting forth the U.S.A. Constitution (1787). He then travelled in France, England, and Germany, becoming minister to France from 1792-94. He was elected U.S.A. senator for New York (1800-3), and chairman of the Erie Canal Commissional Commission of the Erie Canal Commission of the sion (1810). Consult Sparks, Memoirs of G. Morris, with Selections from his

1888. Lewis (1833-1907), great-grandson of the Welsh poet, Lewis M. (d. 1765). He

Morphy, Paul (1837-84), a great graduated from Oxford (1855), and was called to the bar at Lincoln's Inn

deputy-chancellor Wales, and served

on the governing bodies of the three years. After this was published M. Welsh colleges. His works include Songs of Two Worlds, 1872-75; The Epic of Hades, 1876-77 (which went through numerous editions); Gwen, a Drama in Monologue, 1879; The Ode of Life, 1880; Songs Unsung, 1883; Songs of Britain, 1887 (containing odes on the Queen's jubilee and the foundation of the Imperial Institute); Idylls and Lyrics, 1896; The Harvest-Tide, 1901; The New Rambler from Desk to Platform, 1905; A collection of his works appeared 1890-91. M. was made a Knight of the Order of the Saviour (of Greece) in 1879, and awarded a Jubilce medal (1887).

Morris, Richard (1833-94), an English philologist, born in London. He

the English at King's In 1871 he

took holy orders, and from 1875-88 was headmaster of the Royal Masonic Institution for Boys in Wood Green, London. He published various works on English, the most important of which are: The Etymology of Local Names, Historical Outlines of English Elementary Lessons Accidence, Elementary Lessons in Historical English Grammar, and a Primer of English Grammar. He was a member of the Early English Text Society, of the Pali Text Society, and of the Chaucer Society, and he edited numerous works for these societies.

(1821-1908), Morris, Thomas Scottish golfer, born at St. Andrews. He was usually called 'Old Tom' to distinguish him from his son, Young Tom M., also a famous golfer, who died in 1875. M. played golf from infancy, and was one of the foremost

players of his day.

Morris, William (1834-96), a poet, born at Walthamstow, Essex; was educated at Marlborough and at Exeter College, Oxford. At the university he read widely, and began his friendship with Edward Burne-Jones. M. was one of the originators of the Oxford and Cambridge Magazine (1856), to which he contributed short stories, essays, and poems. In 1858 he published a book of verse, The Defence of Guenevere, but at this time his interest was inclining to painting and illuminating. He married Jane Runden in 1859 and built a house of Burden in 1859, and built a house at Upton for himself, for which he de-signed the decorations. It was pro-bably this that gave him the idea of forming (1861) a firm of manufacturers and decorators, known Morris, Marshall, Faulkner & Co., the main object of which was to pro-

turned his attention to illuminated manuscripts, and later studied the arts of dycing and carpet-weaving. In the early eighties he embraced socialistic tenets. In 1890 he started at Hammersmith the Kelmscott Press (so called after his house near Lechdale), and thence issued the magnificent and much-sought-after books. Among his writings were English verse translations of the Eneid, 1875, and the Odyssey, 1887; The House of the Wolfings, 1889; and News from



Nowhere, 1891. There is a biography by J. W. Mackail (1899) and by

Compton-Reckett (1913).

Morris, William O'Connor (1824-1904), an Irish judge and historian, born at Kilkenny. He was admitted a member of Lincoln's Inn in 1852, and called to the Irish bar in 1854. He was elected professor of common and criminal law in King's Inns in 1862. Owing to discrepancy with Sir R. Peel, it was not all the from the Common on Singer the County Court judgeship for Louth in 1872. In 1878 he was removed to co. Kerry, and in 1886 to the united counties of Sligo and Roscommon. Among his historical works may be mentioned: Mollke: duce artistic furniture and to under-take artistic furnishing. In 1868 he began to write The Earlhly Paradise, and was occupied with this for two Morris (Morrice, Mourice, Mores)

Dance, an old English dance probably of Moorish origin, probably intro-duced into England by Queen Eleanor of Castile. In Henry VIII.'s reign it formed an essential part of most rustic and parochial festivities. When later it was associated with the May games, the dancers frequently represented characters of the Robin Hood legend, especially Maid Marian and Friar Tuck. The hobby-horse was at one time a prominent figure in this It was suppressed by the Puritans and never generally revived. See Douce, Illustrations of Shakespeare, ii., 1839; Strutt, Sports and Pastimes . . , ii.; Brand, Popular Antiquities, i., 1849; Sharp and Maclwaine, The Morris Book.

Morrison, Arthur (b. 1863), an English novelist, dramatist, and writer on oriental art. He was formerly a journalist, and now owns a well-known collection of Chinese and Japanese paintings, etc. His works include: Tales of Mean Streets; Martin Hewitt, Investigator, 1894; icles of Martin Hewitt, 1895; Chron-Adventures of Martin Hewitt; A Child of the tures of Martin Hewitt, A Chiu of Mc Jago, 1896; The Dorrington Deed-Box, 1897; To London Town, 1899; Cunning Murrell, 1900; The Hole in the Wall, 1902; The Red Triangle, 1903; The Green Eye of Goona, 1904; Divers Vanities, 1905; Green Ginger, 1909; The Painters of Japan, 1911; and the plays That Brute Simmons (with H. C. Sargent), 1904; The Dumb Cake (with R. Pryce), 1907, and A Stroke of Business (with H. W. C. Stroke of Rus Newte), 1907.

Morrison, Robert (1782-1834), the founder of Protestant Missions in China, horn at Morpeth. He studied in England from 1801-7, when he was sent to Canton by the London Mis-sionary Society. In 1809 he became translator to the East India Company. He established an Anglo-Chinese College at Malacca in 1818. He transand compiled a Dictionary of the Chinese Language, 1815-23; Chinese Crammar, 1815; and Chinese Miscellany, 1825.

Morristown, the cap. of Morris co., New Jersey, U.S.A., on Whippany R., 26 m. W. by N. of New York. It is a favourite summer and health resort. Straw-board and carriages are manu-There is much fruit and factured. agricultural produce. Pop. (1910) 12,507.

Morris Tubes are contrivances for converting an ordinary rifle into a miniature rifle for short-range practice, or a shot-gun into a small-bore They consist of a small rifle barrel, and are usually chambered for the 297/230-bore cartridge. They have been adopted by the British War loading, and had a smooth bore of

Office, as they can be fitted to the usual service rifle, and are thus very useful for training recruits and where long ranges are not available.

Mors, or Morso, an island of Denmark, off the W. coast of Jutland, in the Lum Fjord. Chief town is Nykjobing. Length 22 m. Pop. 18,500.

Mors, a tn. of Prussia in the Rhine prov., 17 m. W. of Essen. Pop. 23,255. Morse, Samuel Finley Breese (1791-1872), inventor of telegraphic system, born at Charlestown, Massachusetts, U.S.A. In 1811 he went to England to study art under West, and gained a gold medal in 1813 for a statue. He returned to America in 1815, and was first president of the National Academy of Design, New York, during 1826-42. He also studied chemistry and electricity, and in 1832 conceived the idea of a magnetic telegraph. In 1843 Con-gress granted \$30,000 for an experi-mental telegraph line between Washington and Baltimore, and M.'s system was soon widely adopted. See Life by Prime (1875).

Morshansk, a tn. of Central Russia, in the gov. of Tambov, 58 m. N.N.E. of the city of Tamboy. It is a trade centre for wheat grown in Tambov, Penza, etc., and there are several flourmills, storehouses, distilleries, The manufs. are glue, tallow, malt. etc. There is a fine

soap, malt, etc. There is a fine cathedral. Pop. 28,000.
Mortality.—The law of mortality:
In actuarial calculations the law which, founded on the average M. for any given number of years, determines the proportion of persons who die in any assigned period of life or interval of age out of a given number who enter upon the same interval.

Bills of parish regi of persons th ish during certain periods of time, and denominated according to the period taken, weekly, monthly, or yearly bills. They originated in London at the end of the 16th century, during the time a plague epidemic was ravaging the city, and have been published regularly from shortly after that year till the present time. See also STATISTICS.

Mortar was the name of a short piece of ordnance, with a very wide bore, the width of which very often more than equalled the length of the It had trunnions on the breech, and was mounted so as to throw the shell at a high angle (generally about 45°). Ms. were especially useful in sieges, as they dropped their shells over the walls; the range was regulated by the amount of powder used. The usual type of M. was muzzle5½, 8, 10, or 13 in. calibre. In modern times howitzers (q.v.) is the name given to short guns of similar type, although a very short howitzer is

sometimes called a M.

Mortar (Lat. mortarium), a material used to bind together the bricks and stones of a building. The use of such a material dates back from early times. M. is a mixture of lime with water and sand. The sand is placed on the mixing platform, and formed into a ring, into which the required quantity of lime is placed. The whole is then well sprinkled with clean water, the sand turned over the lime, and it is left to 'slake' for a day or two, when it is well mixed up. It is preferable to leave the M. for some little time after mixing, until it is 'tempered.' 'Hydraulic mortar' is a name sometimes given to M. which hardens in water (as opposed to ordinary M., which hardens only in air), but this is really cement (q.v.).

but this is really cement (q.v.).

Mortara, a tn. of Italy in the prov.
of Pavia, 25 m. S.W. of Milan. The
Austrians gained a victory over the
Sardinians here in 1849. There are
iron works and manufs. of machinery.

Pop. 8700.

Mortara, Edgar, a Jewish boy who in 1858 was forcibly carried away from his parents by the Archbishop of Bologna on the grounds that he had been baptised in infancy by a Roman Catholic nurse. The episcopal authorities refused to give him up and he became an Augustinian monk.

Mortar and Pestle. The mortar is a vessel in which substances are ground to fragments or pulverised by beating with an instrument called the pestle. They are made of various substances according to their use. Glass, agate, flint, porphyry, stoneware, or castion is generally used. Glass and stoneware mortars are used in the laboratory for analytical work, agate is used when the substance is to be reduced to a veryfine powder, whereas iron mortars are employed for crushing coarser substances.

Mortar-vessel, a special class of gun-boat for mounting sea-service 'mortars' (artillery). The oldest form was the bomb-ketch, whose great convenience was the length of deck without a mast. A smaller variety was called a mortar-boat. These kinds of bomb-ships have casted to exist in the British Navy

Mortgage, the transfer of land or other property as security for the repayment of a loan. It is to be distinguished both from a hypothecation and a pawn or pledge. In hypothecation the creditor has rights over but does not take possession of the hypothecated property of his debtor.

The term in English law is practically confined to a master's (a.v.) power to raise money on his ship or cargo for necessary purposes (see also Bor Tomr), but is a common form of security in Scots law (see Hypothes). In the case of a pledge of goods, possession is given to the pawnee, and herein it differs from a true M. of chattels by bill of sale (a.v.). Under a bill of sale to secure a debt, the property in, but not the possession of, the scheduled goods and chattels passes to the grantee, subject either to a condition cancelling the transfer on performance of the condition to repay the loan with interest, or to a provise enabling the grantor (debtor), to redeem his property by such payment and at once to have it reconveyed to him.

Mortgage of land.—A legal as distinct from an equitable M. (q.v.) is created by full owners;

in it to the mortgagor's

mortgagor's a right to have his land back again on payment of the principal money and interest. Most Ms. include an express covenant (a.v.) on the part of the mortgagor personally to repay the loan, but such covenant is obviously only useful where the mortgagor has money with which to repay, and, generally speaking, the mortgagee only sues on it if the land becomes less valuable and insufficient to secure the loan. The rights of the mortgage are: (1) To sue on the covenant to repay at any time after the expiration of the period (usually six months) fixed for payment. (2) To enter into possession of the land at any time; though usual in possession realising the the mortgagee goes into possession he will be called upon to account strictly

will be called upon to account strictly not only for the rents and profits received by him, but for all he might have received if he had exercised the utmost care. When in possession he may make building leases for ninetynine years, or occupation leases for twenty-one years. If he remain in possession for twelve years without acknowledging the title of the mortgagor, he becomes absolutely entitled to the land (see Lumtations, Statutes or). (3) To apply, after the expiration of the term for repayment, to the court for a foreclosure order, i.e. an order fixing a further period (generally six months) within which the mortgagor must pay the principal

interest and costs, or be for ever fore-

closed of his equity of redemption.
(4) To sell the land, and out of the proceeds to recoup himself, the costs of the sale, the M. debt and interest

which right is less stringent than a university boat race. Malting is the foreclosure, because the mortgagor is local industry. Pop. about 7774. entitled to the surplus proceeds. But there is no right to sell unless either (a) the mortgagee has given three months' notice in writing demanding payment and stating his intention to sell if the money be not paid; or (b) some interest is two months in arrear: or (c) there has been some breach of the covenants in the deed, other than that for the repayment of the loan. A right to sell is implied in a M. deed, and, therefore, no order of court is required. (5) To appoint a receiver of the rents and profits to apply the same in payment of debt and interest. The mortgagor's rights, so far as not impliedly stated above, are: (1) If in possession to make building and occupation leases for ninety-nine and twenty-one years respectively. (2) If he redeems, to get his land back free from all restrictions whatever. (3) If he remains in possession for twelve years without paying any part of the principal or interest to ignore the mortgagee's rights altogether.

Mortification, a Scots legal phrase applied to lands given for charitable or public uses. Ms. for the benefit of the poor generally fall under the administration of the heritors (q.v.) and kirk session, while lands given for any charitable purpose are disponed to trustees to be held in blench or feu. The Court of Session has jurisdiction to control the management of the administrators of Ms. The term is practically synonymous with English mortmain (q.v.).

Mortimer, Roger, first Earl of March (c. 1287-1330), about 1304 he succeeded his father, the seventh baron, as Baron of Wigmore, and in 1306 was knighted. In 1316 he was appointed Lieutenant of Ireland, and in 1317 drove Bruce to Carrickfergus, and defeated the Lacys. He became and deleated the Lacys. He became Justiciar of Ireland in 1319, fought for his uncle, Roger, in Wales in 1320, and in 1322 was captured and sent to the Tower. He escaped to Paris in 1324, and became chief adviser to Queen Isabella. In 1327 he became Justiciar of Wales. In 1330 he was accused of treason and complicity in the death of Edward II., and other charges, and executed at Tyburn.

Mortlake, a vil. in Surrey, England, 64 m. from London, on the L. and S.W.R. The church of St. Mary the Virgin, founded in 1348, rebuilt in 1843, and often enlarged, contains memorials to Sir Philip Francis and Sir John Temple, besides many tombs of celebrities, notably of Dr. John Dee, philosopher and astrologer. The the crown or the authorisation of a Ship Hotel is notable as the public or private Act of Parliament. finishing point of many an inter-

Mortmain. An alienation of land in M. or in mortua manu denotes the transfer of land into the dead hand either of the Church or any other corporation (q.v.), and was so called from the fact that the immortality and other non-human attributes of corporations necessarily prevented the lands in their possession from ever being profitable either to the king or to the immediate feudal lords of those who had alienated them, because there was no possibility of escheat (q.v.), reliefs, wardships, marriages, or any other feudal aids. The learning on the subject of M. is almost as purely antiquarian as that of feudal aids, but is still of some practical im-portance from the fact that though the same reasons do not now exist for prohibiting the conveyance of land to a corporation, and though there are numerous statutory provisions by which almost any corporation can hold land with or without a royal licence, the Mortmain Acts of 1279, 1391, 1888 are still in force. Early in the history of English real property law, the conveyance of land was next to impossible, but even when most of the feudal restrictions on alienation had been abolished, it still remained, and in the theory of the common law still remains, impossible for a corporation to purchase land without a licence. The only justification for such a prohibition at the present day is the objection to perpetuities, or in other words, virtual withholding of land from the open market. ancient reason of the prohibition was, as indicated above, the fact that the feudal tenant who so got rid of his land could not therefore be made answerable for the various oppressive incidents attached to its ownership. For the most part landowners conveyed their lands to the Church or some other ecclesiastical corporation. e.g. a monastery, and those who are curious to know more of the early history of the subject will find in Blackstone's Commentaries an instructive account of the long pro-tracted duel between the legislature and the ecclesiastics, in which the skill of the lawyers employed by the latter was hardly ever at a loss to invent some device to outwit the provisions of the Mortmain Acts (e.g. the com-mon recovery was in its origin an ecclesiastical weapon for thwarting the Mortmain Acts; see under COMMON RECOVERIES). At the present day numerous corporations can hold lands

panies Consolidation Act, 1908, or the Acts consolidated in that Act) formed for the acquisition of gain may hold lands for the purposes of the business of the company; but no company formed to promote art, religion, science, or charity, or for a non-lucrative purpose can hold more than two acres of land without the sanction of the Board of Trade. Charity trustees may be incorporated under the Charitable Trusts Acts, and may then hold lands without further Under the Public Health licence. Act, 1875, the Municipal Corporation Act, 1882, the Local Government Acts, 1888 and 1894, municipal corporations, county councils, and other local authorities are empowered to hold lands for the purposes of those Acts. Railway, gas, water, and tramway companies may also hold land under their respective private Acts.

Under the Mortmain and Charitable Uses Act, 1888, every conveyance of land, or grant of money to be laid out in land, for charitable uses (q.v.) is forbidden, unless (1) made by deed executed in the presence of two witnesses and enrolled in the Central Office of the Supreme Court within six months after execution, except in the case of copyhold land or stock in the public funds; (2) made at least twelve months, or, if stock in the public funds, six months before the death of the grantor; (3) the assur-ance takes effect in possession with-out power of revocation or condition in favour of the grantor except a easements. reservation of mines nominal rent, and repairing covenants. If, however, the assurance is made bond fide and for valuable consideration (q.v.), (1) and (2) do not apply. There are exemptions from the above restrictions in the case of Oxford, Cambridge, London, Durham, and Victoria universities, and in favour of gifts not exceeding 20 acres to public parks, 2 acres to museums, and 1 acre

orders.

Morton, James Douglas, 1 Earl of (d. 1581), regent of Sco In 1557 he subscribed the first of the Scottish reformers. drew his support in 1559. Mary Queen of Scots arrived in land he became privy councillo: instrumental in suppr Huntley's conspiracy in 1562, was made lord chancellor in 1563, president of Morton Trust Co., 1899.

pany (incorporated under the Com-| Ruthyen and Hamilton in settling the crown matrimonial upon Darnley. In 1566 Darnley denounced him and he was obliged to flee, but later in the same year was pardoned through the influence of Bothwell, for whose marriage with Mary he signed a bond in 1567 He then roused the citizens of Edinburgh against Bothwell, but allowed him to escape, and brought about the queen's imprisonment at Lochleven. He became lord chancellor and a member of the Council of Regency, in which capacity he acted as adviser to Moray, and practically ruled the country during Lennox's regency. He gained the favour of Elizabeth, and induced many prominent men to desert Mary's cause. 1578 James VI. assumed the government, but a parliament held at Stirling Castle re-established M. at the head of affairs. He was executed in 1581, having been convicted of the charge, brought by the Earl of Lennox, of being privy to Darnley's murder.

Morton, James Douglas, Earl of (1707-68), a Scottish nobleman and patron of arts and sciences. At the age of twenty-five founded a philosophical society in Edinburgh, which, later, became prominent in almost all branches of knowledge. Elected president of the Royal Society of London in 1733 and, on the death of the Earl of Macclesfield, elected an associate in the Academy of Sciences at Paris. Had considerable knowledge of natural and experimental philosophy, but was more dévoted to cularly science especially astronomical observations.

Morton, John Maddison (1811-91), an English dramatist, born at Pangbourne, Berkshire. His works, mainly farces and often adapted from the French, were very popular, and included My First Fit of the Gout, 1835: Grimshaw, Bagshaw, and Bradshaw, To Paris and Back for Five Pounds, Box and Cox, 1847; and Going it at Toole's Theatre, 1885. Morton, Levi Parsons (b. 1824), ex-

3

President of U.S.A., born at Shore-ham, Vermont, U.S.A., and graduated at Shoreham Academy. M. entered a bank at Boston in 1850; success

He offered no opposition to the mar-riage of Mary with Darnley, instigated 1851), an American physician and the murder of Rizzio, and joined ethnologist, born at Philadelphia. In

1839 he became professor of anatomy in the Medical College of Pennsylvania, after practising as a doctor for nineteen years in Philadelphia. His special study was craniology, and he made a remarkable collection of skulls, besides writing Grania Ameri-cana, 1839, and Grania Egyptica, 1844. Mortunry. A local authority may

provide and fit up a proper place for the reception of dead bodies before interment, make by-laws with respect to the management and charges for the use of the same, and provide for the decent and economical interment of the dead bodies received into any If a local authority do not provide a M. voluntarily, the Local Government Board has power to re-quire them to do so. The local authorquire them to do so. The local authority may also provide a post-mortem examination chamber, which, however, must not be at a workhouse or at a M. County councils have concurrent powers to establish Ms. for the reception of unidentified dead bodies, and to require borough councils to the country of the co cils to provide post-mortem chambers. Any local authority having power to provide a M. may purchase by agreement, or by compulsion, or take on lease, any land or buildings they may require for a M. See BURIAL, LAWS AND CUSTOMS OF.

Morumgao, the chief part of territory of Zoa in Portuguese India, 260 m. from Bombay. Manganese ore is

worked in the vicinity.

Morver, a par. and peninsula of Argyllshire, Scotland, lying between Locks Sunart and Linnhe. Area 90,737 acres. Pop. about 1000. Morvi, a small feudatory state of

Kathiawar, Bombay, India. Area 821 sq. m. Pop. 106,000. The town is 110 m. S.W. of Ahmadabad. Pop. 18,000.

Moryson (or Morison), Fynes (1566c. 1630), a traveller. He visited Germany, the Low Countries, Poland, Italy, Switzerland, and France (1591-95), and Palestine, Constantinople, and Scotland (1598). In 1600 he went to Ireland, became secretary to Sir Charles Blount, and helped to suppress Tyrone's rebellion.

Mosaic, a variety of surface decora-tion, used largely on floors and walls. In M. work variously coloured fragments of marble, glass, ceramic, or other substances are arranged in a cement or mastic bed so as to produce an artistic or geometrical design. The art goes back to a very remote origin, but it reached its highest develop-ment in ancient times among the Very few old Roman villas remain in which there is not some M. work of a greater or less degree of claboration. The best-known example is that of Hadrian's villa at Tivoli, level with the exception of a tract in

where Pliny's doves are represented with wonderful delicacy of colouring. The tesseræ (the small fragments of which the M. is composed) have varied considerably in size at different times. The Roman tesseræ measured from a quarter to half an inch in size, but those used in the later 14th-century Italian work were frequently under one-eighth of an inch. M. work became a special feature of Christian churches under the Byzantine empire, and Eastern influence is clearly to be seen in the Roman work. In the East the art is continued down. to the 13th century. In the West the art declined in the 7th century, revived again in the 8th for about a century, but then fell away again until the 14th century. In this later work M. can hardly be considered as an art in itself. See Gerspach. La Mosaique, 1885; Garrucci's Storia dell' arte cristiana, 1873-81; A. Sal-viati's On Mosaic, 1862. Mosaic Gold consists of stannis sulphide (SpS)

sulphide (SnS₂). It is prepared by heating together a mixture of very finely divided tin with sulphur and ammonium chloride. It is obtained in golden spangles. It is used exten-

sively for imitation gilding.

Mosaylima, or Moseilema, a contemporary and rival of Mohammed. claiming to have equal rights with him to the title of 'Messenger of God.' He stated that Mohammed had nominated him his successor, but his claim was not acknowledged by the Moslems. He was killed in 643 by Khalid, a general of Abu Bekr.

Moscheles, Ignaz (1794-1870), a Bohemian pianist and composer, born

at Prague. In 1820 he toured Germany, Holland, France, and England, giving concerts, and in 1825 settled in London as professor at the Academy of Music and director of the philharmonic concerts. In 1844 he, together with Mendelssohn, became leader of the Leipzig Conservatoire. His Life, by his wife, appeared in English in 1873, and his correspondence with Mendelssohn in 1888.

Moschus, a Greek bucolic poet, was a native of Syracuse, and flourished in the 2nd or 3rd century B.C. Nothing is known of his life. His works are generally printed together with those of Theocritus and Bion. Only four Idylls and some fragments are extant, all but one written in the Doric dialect, and remarkable for their beauty. They have been translated into English prose by Andrew Lang (1889).

Moscow: 1. A gov. of Central Russia, lies immediately S. of the governments of Tver and Vladimir. Area 12,847 sq. m. The surface is

principally clayey, with some sandy and stony tracts, is, on the whole, unfertile, and barely supplies local con-sumption. None of the governments of Russia, however, equal that of M. in manufactures and general industry. It contains numerous cotton. dustry. It contains numerous cotton, cloth, silk, brocade, chintz, paper, leather, perfumery, furniture, carriage, and other factories. China-ware is manufactured from the clay dug up in the district of Gjelsk. White limestone is quarried, and is much used for building in the capital; yellow marble quarries occur on the banks of the Oka. Peat is extensively used as fuel in the factories. Almong the places historically celebrated are the places historically celebrated are the monastery of St. Sergius, founded by one of the first Muscovite princes, and famous for its silver shrine, said to be the richest in the world; and the village of Borodino (q.v.). Pop. 3,215,400. 2. (Russian Moskwa.) The ancient cap. of Russia and formerly the residence of the czars, is situated in a highly-cultivated and fertile district on the Moskva, 400 m. S.E. of St. Petersburg, with which it is in direct communication by railway. Previously to its being burned in 1812, M. was perhaps the most irregularly built city in Europe, and that dis-tinction to a great extent it still retains; for, as the main object in 1813 was to build speedily, the streets rose again on the old model, undulating and crooked, and consisting of alternating houses, the most varied in character and pretensions. Its hundreds of churches and convents, surmounted by gilt or variously-coloured domes; its gardens and boulevards; and, above all, the high walls and crowded yet stately towers of the Kremlin or citadel, produce a most striking effect. The Kremlin, situated on the northern bank of the river, forms the centre of the town, and around it, with a radius of about 1 m., around it, which a radius of about 1 m., is a line of boulevards, extending, however, only on the N. side of the river. Outside of this line, and concentric with it, is another line of boulevards, with a radius of 1½ m., while beyond all, and forming the girdle of the city, is the outer ramerar with a circumference of 26 m. part, with a circumference of 26 m. The Kremlin comprises the principal buildings, as the cathedral of the Assumption of the Virgin, founded Assumption of the Virgin, locality in 1326, a small but gorgeously decorated edifice; the cathedral of the Rhine, rises in the S.E. of the dept. Archangel Michael, containing the of the Vosges, France, in two headtombs of all the czars in the Great. The Great head of the Vosges, France, in two headtombs of all the czars in the Great. the royal burial-place to

the S.W.; which is elevated. It is burg; the church of the Annunciation, watered by the Moskva and the the floor of which is paved with Kliazma, while the Oka forms a portion of its S. boundary. The soil, various shapes; the tower of Ivan jaspers, agates, and carnelians of various shapes; the tower of Ivan Veliki, 200 ft. in height and sur-mounted by a magnificent gilded dome, from which, as from all the domes of M., rises the 'honourable cross'; the Czar Kolokol (king of bells). the greatest bell in the world; several palaces, and collections of ancient arms and other antiquities. The walls of the Kremlin are surmounted by eighteen towers, and pierced with five gates. M. has a university. five gates. M. has a university. It is the seat of an extensive manufacturing and commercial industry: it imports largely and carries on a considerable export trade, especially with Asia. Its trade is chiefly in hides, leather, oils, wool, grease, isinglass, wax, honey, feathers, and down, potass, soap, iron, and copper; cotton from Asia, silks from Georgia, cotton from Asia, silks from Georgia, Persia, and Bokhara; Caucasian madder, home and Turkish tobacco, furs, tea, chemicals, and all the products of Russian manufacture, of which M, is the actual centre. The other principal branches of manufacture are tanning and skin-dressing, iron and silk and skin-dressing. iron, copper, and silver works, and chandleries. Pop. 1,481,200. M. was settled by Great Russians in the 11th century. In the 14th century, not only had it become the capital of the Russian religious world, owing to the residence there of the metro-politan, but it had also become the actual capital of Muscovy. In 1368, 1370, and 1372 it suffered from the inroads of the Lithuanians; in 1381 it was sacked by the Tartars. 1415-1501 it was, on four separate occasions, partially destroyed by fires, and it was burned to the ground by Devlet-Girey, Khan of the Crimean Tartars, in 1571. It was taken by the Poles in 1610, and remained in their possession till their expulsion by the Russians under Minin and Pojarsky in 1612. In 1682, 1689, and 1698 it was the theatre of the revolts of the Strelitz. In 1812 it was burnt by its own inhabitants to prevent it falling into the hands of the French.

Moselle, or Mosel, a kind of light wine obtained from the valley of the Moselle. It :

flavour, not The vines me Moselle are Kleinberger, are those of

Piesport, and Moselle, o:

and Alsace-Lorraine, and

joins the Rhine at Coblenz. Its chief! tribs, are the Meurthe in France, and the Saar in Germany. It is navigable from Frouard. Length, 320 m.: area of basin, 10,950 sq. m. S. Tower, The Moselle, 1913. See Charles

Mosely Commission, the name given to the commissions of inquiry sent out in 1902, 1903, and 1906 by Sir Alfred Mosely, C.M.G., to study the educational and labour systems in vogue in the U.S.A. Two commissions were projected in 1902—the educational commission, which was to make a special study of the commercial and industrial organisation of the U.S.A.; and the labour commission, which was to devote its attention to problems relating to capital and labour, the methods of production, and the progress of trade unions. The labour commission went out in the autumn of 1902, and the educa-tional in 1903. Only trade union delegates were invited to go out on the labour commission, the investigation being entirely non-political. The reports were published in 1904.

Moser, George Michael, R.A. (1704-83), a Swiss chaser and enameller, born at Schaffhausen, but spent most of his life in England, where his watches and bracelets were in great He was drawing-master to George III., and assisted in establishing the Royal Academy, of which he was elected the first keeper in 1767.

Moser, Mary (d. 1819), a flower painter, daughter of George Michael M. She was a foundation member of

the Royal Academy

Moses (Heb. Mosheh, Gk. Μωυσής), the great Jewish lawgiver and judge, brother of Aaron and Miriam. records of his life and work found in the Pentateuch are very meagre, and if, as is now generally believed, the 'Books of Moses' were not written until some 800 years later, are probably to a great extent legendary (see Exodus, Numbers, and Deuteronomy). He was said to have been born in Egypt of the tribe of Levi, and be-cause at that time Pharaon had decause as that time r hardon had de-creed that every male child of the Hebrews should be destroyed, his mother Jochebed placed him in an ark upon the Nile, where he was found by Pharaoh's daughter, and adopted by her. Brought up as an Egyptian prince, his heart was yet Egyptian prince, his heart was yet with his own people, and finding an Egyptian oppressing a Hebrew, he slew the Egyptian and then, for safety, fled into Midian, whence he received a divine call to return and lead the chosen people out of Israel. (For the history of the plagues, the crossing of the Red Sea, and the fate of the Egyptians, see Exodus.) For forty years he was military leader social

and religious organiser, and lawgiver to the turbulent tribes in the desert wanderings, finally dying on Pisgah, or Mt. Nebo, to the N.E. of the Dead Sea. For the details of his life recorded in the Pentateuch there may be insufficient historical foundation, but the deliverance from Egypt, his code of moral and social laws, his unwavering upholding of Jehovah as the one God, and his conquest of the land E. of Jordan, must be accepted as facts. See Rawlinson's Moses, his Life and Times, 1887, in Men of the Bible Series; Robertson Smith's Old Testament in Jewish Church; Oosterzee's Moses (Eng. translation 1875).

Moskwa, a river of Russia, traversing the dist. of Moscow, and passing Moscow and Mozhaisk. It joins the Oka at Kolomna, after a course of

300 m.

Mosman, a suburb of Sydney, New South Wales, lying on the N. side of the entrance to the harbour.

Mosque, a Mohammedan house of prayer. The form of the oldest Ms. (at Jerusalem and Cairo) is evidently derived from that of the Christian Basilica. The original forms became, however, entirely obliterated in the progress of Mohammedan architecture, and the Ms., with their arcaded courts, gateways, domes, and minarets, became the most characteristic Wherever edifices of Saracenic art. the Mohammedan faith prevailed, from Spain to India, beautiful ex-amples of these buildings exist. They vary considerably in style in different countries, the Saracens generally borrowing much from the architecture of the various nations who adopted their faith. In India, the Ms. have many features in common with the temples of the Jains, while in Turkey they resemble the Byzantine architecture of Constantinople. where the dome is one of the leading and most beautiful features of the Ms., which commonly consist of porticoes surrounding an open square, in the centre of which is a tank or fountain for ablution. Arabesques and sentences of the Koran are inscribed upon the walls. The floor is covered with mats or carpets; there are no seats. In the S.E. is a kind of pulpit; and in the direction in which Mecca lies there is a niche towards which the faithful are required to look when they pray.

Mosquitoes, or Gnats. These terms have no distinction, applying alike to those dipterous insects which form the family Culicidee, characterised by their long, slender, horny proboscis. The antenne are long and adorned with plumes or whorls of hairs, which in the males are so dense as to be years he was military leader, social feather-like. Only the females, which

do not take part in the characteristic; the vegetable kingdom. dances, suck blood-apparently an abnormal habit which, according to

painful as of foreign species owing to the absence from Britain of ague and malaria, which are introduced by biting gnats (Anopheles), there is not the same danger. larval and pupal stages are aquatic, and the numbers of Ms. can be sub-

d, or ickleir by no ni the surface of the water, which effec-

tually prevents the larvæ from inhaling air, and causes their suffocation.

Mosquitos, natives of the Mosquito coast, i.e. the eastern or Atlantic seabon -4 the southseaboa They eastern original are of . natives intermarried with W. muum Confbs and shipwrecked negro slaves, while there is also a strain of white blood, dating from the days. There are

an ty

se.

gent. Many are nominan, and most of them speak English. British protectorate was claimed over the M. during 1655-1850, and friction with the U.S.A. on the score led to the Clayton-Bulwer Treaty. Thev are now under Nicaraguan rule.

Moss, a maritime tn. of Smaalenene prov., S. Norway, on Christiania Fjord (E.), 12 m. from Tönsberg. Timber is exported, and there are iron-mines near. There is a good The convention between harbour. Norway and Sweden signed here (1814), uniting the two states under one king, was annulled 1905. Pop. 9000.

Mossamedes, a senport of Angola, Portuguese W. Africa, on Little Fish Bay, an excellent harbour. The dist. produces cotton, sugar, and fruit.

Pop. 5000

Mossel Bay, a scaport (free port) and bay of Cape of Good Hope, S. Africa, bounded W. by Groote R. The town (formerly Aliwal S.) is 25 m. from Georgetown. It ranks fourth in importance among the ports of the is common, bu Cape. Pop. 5000.

Mossend, a tn. of N.E. Lanarkshire, Scotland, 3 m. N.E. of Hamilton, with extensive iron and steel works. Pop. 3500.

They are arranged in three sub-groups, Sphagnates, Andrewates, and Bryates, and while the last named comprises a great number of genera and species, the others ar "remonsted each only by a single species of the in temperate

at high levels all bog or mc growth has contributed greatly to use formation of peat. They are usually seen as pale green or reddish patches, and in the deeper pools often attain a length of several feet. About a dozen species occur in Britain of the genus Andreæa; less than half a dozen species have been found in Britain, and they are limited to alpine districts. They are small M. of dark colour, and grow on bare rocks in tufts. The sub-group Bryates com-prises all the other M., which in Britain alone number some six hun-dred species and over a hundred genera. Though they conform to a general type, they exhibit great variagenera. tonibs and tonin many respects. Their habitat varies from soil, trees, and other damp places, and even in one genus in physical rocks. They exhibit many interesting to their environment.

a their arrangements for

water in the plant. Among the genera of this group is Buxbaumia, which seems to represent a stage that other M. have passed, and is regarded as the simplest type. most M. the protonema, the first stage, arising from the spore, disappears after the young M. plants have developed from it, but in Buxbaumia, as well as some other simple types, it persists, and is capable of assimilation, and the small plants which bear the antheridium and archegonium (male and female organs) are dependent upon it for nourishment. From this primitive stage to that in which the plants are small, radical, and but little branches, and to that in which the plants branch freely and differentiate the shoots, there is a fairly steady graduation. The specialisation of structure mainly directed towards collecting retaining as much water as and possible. The sexual organs usually occur at the top of the main shoot, or of branches. \mathbf{r} protonema

growth of M. formation of numerous plants on the

original protonema. Pop. 3500.

Mosses (Musei), a group of plants market in. of Lancashire, England, which with the liverworts (Hepatleæ) on the Tame, 3 m. from Oldham. form the second great sub-division of There are woollen and cotton mills,

a pier available for small vessels, and trades in horses, cereals, flour, and carpets. Pop. 20,000.

Mostar ('old_bridge'), a tn. and

former cap. of Herzegovina, Austria, on the Narenta, 50 m. S.W. of on the Narenta, 50 m. S.W. of Serajevo. It is the seat of a Greek and Serajevo. It is the soar of the soar of a Roman Catholic bishop. It is a Roman Catholic bishop. It is Tobacco and weapons are manufactured. Pop.

16,390.

Most Favoured Nation Clause, a clause that is often inserted in commercial treaties, the effect of which is that the one contracting nation guarantees to extend to the other the benefits conceded to any third nation or nations. Generally speaking, a treaty concerns none but the contracting states, and neither rights nor duties arise for states which are not parties to it. But treaties necessarily affect third states when they touch the previous treaty rights of such third states, and the most obvious instance of such an effect is in the case of a commercial treaty between A and В relating to matters which are already the subject of previous treaties between A and C, or B and C, containing the M. F. N. C.

Mosul, a walled tn., cap. of vilayet and sanjak of Mosul, Asiatic Turkey, on R. Tigris, 220 m. N.W. of Borded

The streets are narrow and

and the houses of stone or bi flat roofs. manufs. of cotton cloths, named muslins,' from the name of the town. There is still caravan traffic in gallnuts, cotton, wool, hides, wax, and gum. On the opposite bank of the river are the remains of Nineveh. Pop., mostly Arab in speech, and including Mohammedans, Christians, and Jews,

Motala, a tn. of Ostergötland prov., Sweden, on Lake Wetter, 42 m. W. of Nörrkoping. There are important mechanical works, cannon foundries, bridge and engine works, and machine

shops near by. Pop. 2908. Motanabbi, Abu-'l-Tayyib Ahmedibn-Hosain (915-65), an Arabian poet. In 945 he set up claims to be a Arabian prophet, but was arrested and imprisoned, and spent the rest of his life as a kind of court poet to various princes in Arabia, Persia, and Egypt. His work is mainly panegyrical or satirical, and his collected poems were published with an introduction by J. von Hammer in 1824.

and iron foundries. Fairs are held in Juneand October. Pop. (1911)13,205. Deity. Mostaganem, a fortified scaport of Algeria, 45 m. N.E. of Oran It has form connected chiefly with mediæval form connected chiefly with mediæval church music. The theme on which a M. was constructed was generally taken from some popular song, the

setting of successive verses in a hymn

or metrical psalm.

Mothe-le-Vayer, François (1588-1672), a French philosopher, born at Paris. In 1639 he became a member of the French Academy. He became tutor to the Duc d'Anjou in 1647, and in 1652 preceptor to Louis XIV. He was also made historio-grapher of France, and counsellor of state. His complete works on various subjects were published at Dresden in 14 vols. 8vo., 1756-59. Mother Carey's Chicken, see PETREL.

Mother of Pearl, see PEARL

Motherwell, a municipal and police bor. and tn. of N.E. Lanarkshire. Scotland, 1 m. from the Clyde's r. b., and has coal mines and iron and steel works. It is named from an old well dedicated to the Virgin. Jubilee Park was presented to com-memorate Queen Victoria's Jubilee.

Motherwell, William (1797-1835), a poet, born and educated in Glasgow. He held the office of depute sheriffclerk at Paisley at the early age of fifteen and in 1819 he was appointed depute of Renfrewshire,

time contributing poetry It formerly had large to various periodicals. He had also antiquarian tastes, and a deep know-ledge of the early history of Scottish ballad literature, which he turned to account in Minstrelsy, Ancient and Modern (1827), a collection of Scot-tish ballads with an historical introduction. In 1830 he became editor of the Glasgow Courier, and in 1832 he collected and published his poems. He also joined Hogg in editing the works of Burns.

> name is also given to Mugwort (Artemisia vulgaris).

Moths (Heterocera) are the second and larger section of Lepidoptera, and are distinguished broadly from other section, the butterflies (Rhopalocera), by some variable distinctions which suggest that the division is somewhat artificial, for there is greater diversity of form and structure between some of the groups Motazilites, a Mohammedan sect of Ms. than between them and butter-founded by Wazil-ben-Ata two cen-turies after Mohammed. They denied or club-shaped antenne of butterpredestination, and also the possi- flies, the antennæ of Ms. are usually

spindle-shaped, thread-like, or comb- by a force equal to that with which like. The wings are generally held it draws the cart forward. See Mach's flat when at rest, not vertical. Ms. generally have a connecting hook for fastening the wings together; this is absent in butterflies. Ms. vary greatly in size from a wing expanse of 7 or 8 in to the almost invisible microlepidoptera. Though many exhibit no special beauty of colouring, others have a wealth of tint that is, perhaps, unique in nature—the colours occurring, as in all Lepidoptera, in the scales on the wings. The females of some species are wingless, as in the Mottled Umber, or are rudimentary, as in the Winter M .- two common Ms. caught on the grease-bands on fruit trees. The silkworm, the caterpillar of Bombyx mori, is the only member of the section of economic value, but on the other hand, great numbers are serious pests of culti-vated crops, the damage in all cases being done in the larval stage. Among the most harmful of them are the Goat, Vapourer, Lackey, Cabbage, Winter, and Codlin Ms., and every one is familiar with the mischievous work of the Clothes M.

Môtiers-Travers, a vil. of Neu-châtel canton, Switzerland, 7 m. from Grandson, in the Val de Travers, which has noted asphalt mines. The Caverne or Grotte des Môtiers is near

by. Pop. 1000.

Motif, see Left-Motif, and Wagner. Motihari, a tn. of Bengal, British India, on Lake Motihari, 75 m. N. N. W. of Patna. Pop. 13,000 (Hindus and

Mohammedans).

Motion. Laws of, are three laws on which the whole system of dynamics is based. They were formulated by Newton in his Principia. These laws cannot be formally proved by experi-ment, or in any other way. They are justified by the fact that the theory of astronomy, which is based on dynamics, gives results and predictions which agree with the facts which are experimentally observed. Thus it is inconceivable that these lows which form the basis of dyna-

> by that s law The

second law states that the late of momentum is proportional to the acting force, and takes place in the Mechanics; Ward's Naturalism and

Agnosticism.

Motive, the desire which precedes and determines a voluntary act. This involves the anticipation of the final realisation, and the consummation is said to be the object or the end of the action, and the action itself is the means of gaining or realising the object of desire. It is easy to show that while the action is the cause of the (actual) pleasure, yet the anticipation of the pleasure is the cause of the action. So M. and end are often used as synonymous terms. Sec WILL.

Motley, John Lothrop (1814-77), an historian, born at Dorchester, a suburb of Boston, Massachusetts. He was educated at Harvard, where O. W. Holmes (q.v.), afterwards his biographer, was a fellow student. After graduating he went to Europe, studied at Göttingen and Berlin, and was the graduating he went to be studied at Göttingen and Berlin, and the student of the student has the student here. visited Italy. On his return he studied law, and was admitted to the bar in 1837. He did not, however, practise, and was in 1840 sent to St. Petersburg as Secretary of Legation. but returned in 1842. Meanwhile, having published two novels, Morhaving published wo hoves, more ton's Hope: or the Memoirs of a Provincial (New York, 1839), and Merry Mount: a Romance of the Massachusetts Colony (1849), which had little success, he turned to history, and attracted attention by some convey in various reviews. Having Having essays in various reviews. decided to write an historical work on Holland, he proceeded in 1851 to Europe to collect materials, and in 1856 published The Rise of the Dutch Republic. It was received with the highest approval by such critics as Froude and Prescott, and at once took its place as a standard work; it has been translated into Dutch and French. It was followed in 1860 by the first two volumes (concluding volumes, 1867) of The United Netherrounes, 1801) of the Onited Nether-lands, from the Death of William the Silent to the Synod of Dort. On the breaking out of the Clvil War in America, M. published (with his initials) in the Times papers on the The · will unihistory of the relations between North and South; these were reprinted in naunplet form in 1861 with the title Causes of the Civil War in America. The same year M. was appointed United States minister at Vienna, and in 1869 at London. His direction of action of the force. This latest works were a Life of Barnereld, law gives the method of measuring the Dutch statesman, and A l'ier force both in manitude and direc-force both in manitude and direc-tion. The third law asserts that to every action there is an equal and poposite reaction. Thus a horse draw-tearch and accuracy and his vivid ing a cart is pulled back by the collar and dramatic style, which shows the

Motmot

influence of Carlyle. An edition of his works was published in 9 vols., 1904.

Motmot, or Houtou (Monotus), a genus of birds which inhabit dense forests in tropical America. The plumage is brilliant, green and blue predominating; the tail is long. No nest is made, the eggs being laid in holes in the trees. The food is mainly increase and fruit. insects and fruit.

Motor Boats. The greater thermal efficiency of the internal combustion engine (see GAS ENGINE), and consequent economy in fuel, together with other advantages, such as occupation of less space, quickness in starting, reduction of staff, etc., has led to attempts to substitute it for the steam engine in many types of boats from 5000 tons gross downwards. Great activity is shown in the French, German, Italian, and Russian navies. Russia owns a small power oil-engined Russia owns a small power oil-engined gunboat. The French have experimented with a 2000 h.p. cylinder, Germany a 3-cylinder engine, 6000 h.p., with the idea of fitting a 6-cylinder 12,000 h.p. cngine to the shaft of a battleship. Britain is experimenting with a 2000 h.p. cylinder, and is fitting oil engines to a twin-screw destroyer turbine driven et full eneed destroyer, turbine driven at full speed, which may be used for cruising speed. As regards merchant service, ships have been fitted, and are actually in service: France (cargo, 4920 tons

2200 tons, Spoorwey 4-cycle single-acting S.S. engine, 6-cylinder, 1100 h.p.). The greatest installation under h.p.). The greatest installation under actual construction for one vessel is by Messrs. Krupp: 12 2-stroke cycle cylinders, 22:45 in. diameter, stroke 39:4 in., to develop 3500 h.p. In February 1912, the E. Asiatic Co.'s vessel Selandia, built by Burmeister and Wain, Copenhagen, visited the Thames, and was inspected by our naval constructors and the First Lord. The vessel was designed to carry 7400 tons dead-weight cargo on a service speed of 12 knots. In trials in the Sound the vessel, being light, at-tained a speed of 12½ knots at 140 revolutions and 2500 indicated h.p. Many other vessels are under construction, and on order, and it may be considered that, in the merchant service, commercial success has been service, commercial success has been achieved for oil-engines up to 3000 h.p., particularly when it is remembered that ships of 2000-3000 h.p. are in great demand. Navy submersibles are driven when under water by electricity, but oil-engines are used to generate this, and also for surface propulsion. Thereads heats surface propulsion. Torpedo boats,

Motor

small boats of all descriptions as a light, compact, speedy motive power. In fact, the speed thus attainable in small craft caused the early develorment to proceed along the line of racing: an extremely useful direction. as it led not only to further designs in boat-building, but showed the necessity for engine designs different from those used for road work. The marine motor is a more robust engine, slower running and heavier; the propeller efficiency, except in the case of racing boats, not being obtained at high revolutions.

Fuel .- For high-speed engines in smaller craft, petrol is chiefly used. In larger vessels paraffin or crude petroleum is employed. Owing to the increasing price of petrol, much attention is being given to substitutes. Paraffin and crude oils require different forms of carburetter for success. In heavier engines the hot-bulb system is employed, while the Diesel engine, for example, can work at a sufficiently powerful compression as to dispense with a special source of heat.

Engines.—For big ships, heavy oilengines are used, the Diesel (see GAS ENGINE) having made great headway. The four-stroke engine has the advantage of absence of temperature troubles, better balance of reciprocating parts, and greater completeness of scavenging; itislargely infavour. The two-stroke engine, however, weight for weight, develops 1.4 to 1.5 times the power of the four-stroke; with minimised revolutions temperature troubles are largely avoided; reversing gear is simpler. There is not much doubt that finally the two-stroke will be the form of the heavier engines. In racing craft of small dimensions the

racing crait of small dimensions the four-stroke is chiefly used, but little advantage probably lies either way.

Silencing, etc. — The essential requirements of silence, absence of back pressure, and low temperature, lead to quite difficult problems in the case of pleasure craft. To lead the exhaust. pipe under water creates back pressure, and a tendency to flood the cylinders, so that exhaust above water-level is usual. Baffle-plate water-jacketed silencers are used. Another method is to spray water directly on to the exhaust gases as they leave the valves, but this method is apt to lead to valve corrosion. torpedo-boat tenders, and auxiliary is apt to lead to valve corrosion. The launches have been fitted with oil- Langdon silencer is one of the devices

ė:

used to avoid such trouble. The water from the cylinder cooling jackets is sprayed into the head of the silencer, and the exhaust gases are brought into this through an intermediate chamber.

Propeller.—Pitch angle is taken at two-thirds the diameter, and an angle of about 43° gives the best efficiency, but a pitch approaching this angle is only realised on slow-speed engines. The usual M. B. has generally a fine-

pitch run at a high speed. Reversing .- There are many propellers of a reversible type: they are provided with mechanism at the root of the blades, whereby the pitch of the blades is reversed, thus avoiding any change in the rotation of the shaft. These are convenient and These are convenient and simple where high speed is not aimed at. Reversing gears are of several types: the positive, with a small lay shaft provided with two gear wheels, shifting so as to engage one or the other; the differential gear, in which a block holding gear wheels is shifted forward or backward into clutches by a movement of the shaft; the epicyclic gear, in which planetary wheels mesh with an internally toothed wheel carried on the engine shaft while fixed to a frame free to rotate or held rigid. These arrangements are necessary, since the internal combustion engine is not reversible with-In the large engines, out trouble. however, where compressed air is used for starting up, the reversing ca: necessitate sm: sto y hand.

are M. Bs. ver the surface of one many e speed increases. In the case of an ordinary e speed inboat, the resistance of the water due to friction, waves, and eddies in-creases out of proportion, and it is possible so to arrange matters that the power required to lift the boat and thrust it forward is less than that required to drive it through the water. To gain this advantage a speed of 18 knots, or over, is neaseary. The hour. Dallery in 1780 ran a steam car ricochet 'type has a !

step thus:

Progress is 'by leaps an smooth water is necess. idea of this form of boat . Rev. C. M. Ramus befo thelight petrolengine,

of two parallel planes.

being less and less in depth astern; the Pioneer has attained 42 knots on 400 h.p. Dixie IV. (1911) is a compromise between the Thorneycroft and Fauber type. Maple Leaf is the swiftest craft ever floated by man. In addition, we have the boats fitted with planes fixed to vertical stanchions with lifting power from the air, and capable of rising completely out of the water more suffpletely out of the water, more suitably designated hydro-aeroplanes. Considering that the first M. B. was exhibited in Paris in 1889, the development has been phenomenal; there was a great impetus about 1902 by the holding of races, and a much greater development since 1905 due to the adoption of special marine types of petrol engines. Race meetings are held every year in the U.S.A., England, Germany, and France. The form of boat suitable for

Motor Boat Club, and the Motor Boat Manual, Marine Oil Engines Hand-Marine Oil Engines Hand-book (Dent); Durand, Motor Boats; Douglas, Motor Boats simply ex-plained; also the issues of Engineer-ing for Feb. and March 1912, par-ticularly Feb. 23, p. 260; and The Motor Boat, Feb. 22, 1912.

Motor Cars and Motor Cycles. motor wars and Motor Cycles. Just as it has always been the aim of man to fly, so he has endeavoured to produce a horseless vehicle. In the 16th century Johann Hautach produced a vehicle propelled by colled springs; the Dutch attempted the use of sails. while even steam carriages are re-corded. Ramsay and Wildgoose patented in England, in 1619, a horseless carriage. Cugnot, a Frenchman, is, however, entitled to the credit of undoubtedly constructing a vehicle in 1770 which contained the germs of a vast modern industry. His steam carriage on three wheels carried two passengers at 2 m. per hour, a speed he afterwards increased to 4 m. per

Miranda IV. was on same plan, but with improvements which enabled her to make 29 knots on rough water, and yet act satisfactorily as an ordinary boat at low speed. Fauber hydroplanes have several planes and steps, the latter smooth wheels (one mathematician

laboriously proved that they would In 1836 the famous 'man with the merely revolve under weight), which red flag 'was introduced by Act of led to Stephenson's ratchet-rails, led Parliament, and by the end of the also to curious attempts on the part of Brunton (1813), Gordon, and Gurney to succeed with foot and leg

propellers. Gurney, who spent large sums of money in experiment, built a coach in 1826 which ascended Highgate Hill. In 1828 he accomplished the journey from London to Bath, and 1829 a trip through Reading,

and in 1829 carried fifteen pass at 12 m. per hour. In 1831 Dance ran Gurney's steam carriage regularly between Cheltenham and Gloucester at 12 m. per hour, his coke consumption being 4d. per hour. In four months it ran 3500 m. and carried Messrs. Ogle & 3000 passengers. Summers in 1830 built a car which underwent trials before a select commission of the House of Commons: it worked at 250 lbs. per sq. in. boiler pressure, attained a speed of 35 m. per hour, climbed a hill at 24½ m. per hour, and ran 800 m. without a breakdown. This last is a marvellous result considering the state of the roads, and the fact that it was not hung on springs. The speed was not beaten by Stephenson's 'Rocket' running on rails in 1829! This select commission favourable reported in extremely terms, and in particular recommended lighter tolls, which were then often twenty times those for horse vehicles. Largely as a consequence of this, many motor vehicles were introduced; Hancock's 'Infant' ran from London to Bristol twice; his 'Autopsy' in 1833 plied regularly between Finsbury Square and Pentonville. In this he adouted the direct drive has the control of the control adopted the direct drive by the crank shaft, but afterwards the chain drive, using common chains. Other services plied between Paddington and the Bank, London and Greenwich, London and Windsor, London and Stratford. More ambitious still was Dr. Church's service between London and Birmingham, 1833. All this remarkable success, so little known to the

owners were hostile but interest of railway compa

year all steam carriages, except Hancock's London omnibuses, were off the road. The railway interest in parliament is thus responsible not only for our disused canals, but for over fifty years' repression of engineering enter-Comment would be out of place here, were it not that but for such opposition our roads would be Devizes, and Melksham at such a already perfected for traffic both as pace that the horses of a mail cart were 'hard put to it' to keep up. widely extended network of canals Meanwhile James in 1823 ha ceeded with the first tubular

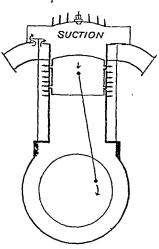


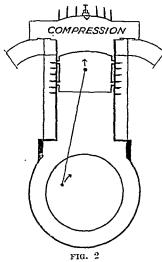
FIG. 1

coach in 1843 running regularly between Deptford and Hastings, negotiating hills 1 in 12 and 1 in 13, performing the return journey in one day. This coach is interesting as being fitted with a differential gear. In 1862 Patterson ran a steam coach, and Yarrow had one in the exhibition. Between 1861 and 1878 parliament distinguished itself by many narrow able success, so must another modern motorist, experienced much between 1861 and 1878 parnament opposition. Gurney had been stoned distinguished itself by many narrow by a crowd egged on by irate posdand repressive road laws, a gleam of 3 when a special

favourably vehicles. In 1871

altogether too strong. In 1832, fifty-four bills were introduced into parlia-ment, aiming by heavy taxation at the new vehicles, one of which, the record length journey from

shamed parliament into removing the restriction of the 'man with the red flag'. Highways Act, Ing to this were gas engine by Otto, 1876 (see GAS ENGINE), and the patenting in 1885 by Daimler of a single-cylinder engine on the same

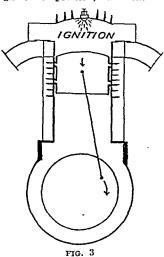


principle. In 1886 he fitted this to a bicycle and was the first to use the carburetter. Messrs. Panhard and Levassor acquired the French and Belgian rights to use the engine, and constructed a car in 1894. In the meanwhile Benz, in 1885, had produced a motor tricycle, also using a petrol engine. Daimler produced the first double-cylinder V-type engine in 1889, whilein 1893-94 Serpollet succeeded with his steam carriage. Press enterprise on the part of Giffard, editor of the Petil Journal, was responsible for the Paris-Rouen race in 1894, won by the De Dion-Bouton steam tractor. The next year saw the Paris-Bordeaux race won by Levassor driving a Daimler motor 735 m. at 149 m. per hour. This led to the founding of the Automobile Club of France by the Comte de Dion. In 1895 saw the first motor bleycle which attracted attention, exhibited by Wolfmüller at the Imperial Institute Exhibition. Onward from this, clubs were formed, races arranged, and the system of definite trials started. In 1899 the Automobile Club of Great Britata held its first trials, and in-

cluded heavy vehicles. In the previous year trials had been held for electric vehicles in France, following on those for heavy vehicles in 1897. Petrol remains the fuel, though the less refined oil, and also acetylene, naphthalene, ether, and compressed air have been experimented with. Paraffin on account of its cheapness, freedom from danger, and the ease with which it can be obtained, re-quires to be highly heated before it will vaporise, and has not yet succeeded in replacing petrol. It has further disadvantages in fouling the cylinder and valves, and in giving off obnoxious gases; the steadily rising price of petrol is, however, leading to determined experiment.

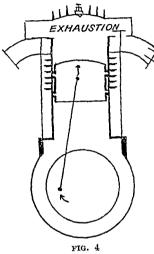
PETROL CARS: Four-stroke engine.

This is on the Otto principle and the cycle of movements known as the Otto cycle. The first, a downward strike, performs the operation of suction, drawing in the mixed charge of air and petrol vapour; the succeeding upward stroke compresses these, both inlet and exhaust valves being closed. An accurately timed electric spark, about the moment of highest compression, fires the ex-



1895 saw the first motor bicycle which attracted attention, exhibited by piston down again. The exhaust Wolfmüller at the Imperial Institute valve opens just before the completion Exhibition. Onward from this, clubs of this stroke and the piston rises, were formed, races arranged, and the driving out the waste and inert prospection of the piston rises, were formed, races arranged, and the ducts of combustion. The cycle of 1899 the Automobile Club of Great operations is thus complete, and is Britain held its first trials, and incontinued over again. The timing of

the valves is automatically performed | stroke. While on the downwardstroke by tooth wheels and cams, while the contact maker determines the time The spark can be adof the spark. vanced or retarded: the former occurring in front of full compression and giving full power, the latter just after full compression and lowering

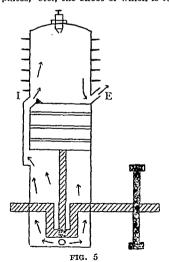


the power. The cycle of operations is illustrated in the accompanying four line drawings, Figs. 1 to 4. The average compression is 85 lbs. per sq. in., but some reach 95, the charge being compressed to one-fifth or onetenth. Owing to the rapid successive explosions, the temperature of the cylinder rises enormously to about twice the melting-point of cast-iron, and the charge would ignite spon-taneously before full compression were not some cooling devised. For this purpose a water jacket is provided, and a continuous stream of water pumped through, passing also through a radiator, where it parts with the heat acquired. In this way the cylinder is maintained at a heat of about 185° F.

Two-stroke engine (Fig. 5).—In this the piston itself opens and closes the inlet and exhaust ports. The crank case is gas-tight and the charge is piston being above the exhaust valve E (Fig. 5), the gases are com-pressed and fired, gas being admitted above the exhaust

the piston passes E and the products of combustion escape; the port I opens, and the partly compressed chamber, helping gas enters the to 'scavenge.' The second or upstroke then compresses the charge. which is again fired. It is clear that in this case one stroke out of two. while in the four-stroke engine one out of four is a power stroke. 'two-stroke has the advantage simplicity, absence of valves, and less vibration; on the other hand, it is less economical of fuel, there is danger of premature ignition, and troubles from fouling due to lubricating oil in the crank case. It is used largely in America and on motor boats, also on one or two popular motor cycles at present.

Silencer .- The exhaust gases, escaping rapidly at a pressure of 30 to 50 lbs. per sq. in., produce a series of deafening explosions; to prevent these. pipes as long as possible are fitted with gradually widening ports, boxes with perforations, with bafflewith perforations, with baffle-plates, etc., the effect of which is to



 $^{
m the}$ expand gases gradually and steadily into the air. The forms of silencers are innumerable.

Carburetter.—The chief problem in applying the gas engine to a motor vehicle is the supply of fuel. This is carried in the liquid state, an imto the crank case through O, and mense advantage, but a means is re-compressed partly by the downward quired for rapidly vaporising it. This

Below the jet the chamber is open to the air and is funnel-shaped, tapering upwards; the upper part communicates with the cylinder. The suction stroke of the engine draws a current of air round the nozzle, causing a fine spray of petrol to issue, vaporise, and mix with the air, the mixture being drawn into the cylinder. The mixing chamber is surrounded by a jacket containing warm water or exhaust gases, thus maintaining a temperature sufficient to prevent freezing due to rapid evaporation, and to aid complete evaporation. It must be understood that the foregoing account merely gives a general idea; there are many carburetters, and all are complicated and delicate pieces of mechanism. Some work on a different principle, but the spray carburetter is in almost universal use. Special carburetters are necessary for of the throttle valve.

Ignition.—The mixed gases being introduced into the cylinder and compressed by the piston, they are ignited by a spark. Compression must be considered as essential to successful ignition and complete combustion, the higher temperature thus induced, as well as the greater pressure, favouring the process. The hot bulb 'system (see GAS ENGINES) was the early form of ignition, platinum tube inserted into cylinder being maintained in an in-candescent state by a flame outside. This has been superseded by the electric spark. A sparking plug electric spark. A sparking page is serewed into the combustion a richer or poorer mixture, determining the force of the explosion, and insulated by porcelain or mica, the other 'earthed' through the metal needs attention chiefly according to parts. The points of the invariance of the atmosphere, and this is left fixed.

they are of nickel, nickel access platinum. The current is provided by the magneto, a small dynamo generating an intense spark. This works quite automatically and is sary to give the compression stroke timed by the engine, and seldom re-quires attention. The high tension was always done by hand, and is very magneto has superseded all other commonly seen now, but several de-

is the function of the carburetter. It methods of sparking; the armature consists of two chambers—the float has both primary and secondary chamber, containing the supply of petrol regulated by a float working a valve; and a mixing chamber, into which a tube from the float chamber leads the petrol. This tube ends in a simpler and the reliability greater than that of other systems which the petrol always stands at the end. are still in use on old cars. The low the leads the chamber is one flexible magnetic has a sincle widing. tension magneto has a single winding. and the current is discharged into an induction coil; the primary current is broken at the required intervals by a contact breaker. In multicylinder engines separate coils are used for each cylinder, or a single coil and a high tension distributor. The coil and battery system is also still in use. For this a dry cell or an accumulator supplies the current to an induction coil fitted with a trembler. A com-mutator driven by the engine opens or closes the primary circuit. When coils are used without a trembler a make and break device of rapid action is used instead of a commutator. When more than one cylinder has to be sparked, the system may be duplicated; a subdivided commutator is used, or a high tension distributor with a single coil.

Cooling.—A supply of water, the substance of highest specific heat, is carried in a tank and circulates through the water jacket enclosing the cylinder. On its way from the tank to the cylinder jacket, the water Special carburetters are necessary for paraffin or alcohol, but not for benzo! substance of highest specific heat. The proportion of air and gas in the mixture ranging between 1S and 20 through the water jacket enclosing to 1 is regulated at the air inlet. It is usually automatically performed by an auxiliary air inlet regulated by a spring varying with the suction of the throttle valve.

Cooling.—A supply of water, the cooling—the project in a tank and circulates in through the water jacket enclosing that to the cylinder jacket, the water passes through a radiator, a system of small copper tubes with radiating fanges of thin metal attached. It is thus exposed to a large surface of thus exposed to a large surface of copper which absorbs the heat and passes it on to the flanges which increase the cooling surface; a current of air passes among them, induced by the speed of the car or by a fan, and thus dissipates the heat. The same water is used continuously except for a small supply to counteract evaporation, and circulation is maintained by natural thermo-convection, or by means of a rotary pump. The speed of the engine is varied by advancing or retarding the spark, many drivers using this method alone almost en-tirely; regulation of the throttle by varying the amount of air used gives

> of the points The current is provided in which the internal combustion engine is at a disadvantage with the steam or electric motor. It is neces

vices are employed in modern cars. i'splashed' with oil from the crank Coiled springs, small but momenta big ends. powerful electric motors, compres y be conair, or acetylene, are used to give of clutch. first drive. For further details construction of the engine, the . to and their timing, the piston, etc by best to consult one of the books cited | various devices convey or isolate the

at the end of this article.

rotary movement to or from the change-speed gear. When freed it Multicylinder engines. — These change-speed gear. When freed it naturally give increased power, but allows of easy starting of the engine, or changing the gear, and when in the car are ensured by them. With

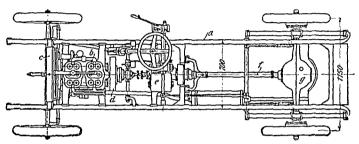


FIG. 6.--PLAN OF 4-CYLINDER PETROL MOTOR, GEAR-DRIVEN

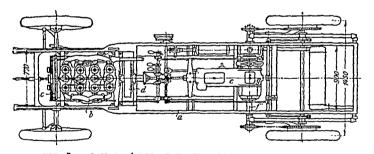


FIG. 7.—PLAN OF 4-OYLINDER PETROL MOTOR, CHAIN-DRIVEN

a, chassis; b, induction pipe; c, radiator; d, clutch e, gear box; f, shaft (Fig. 6), chain shaft (Fig. 7); g, differential gear.

any one cylinder the power varies to the gearing. It is operated by a end of the stroke, and there are two dead points. By arranging the firing of a number of cylinders and connecting them up to the crank shaft regularly round its circumference, the power is distributed more evenly.

Lubrication.—This is naturally of extreme importance. Oil is pumped

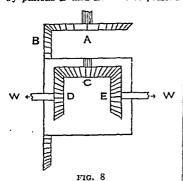
particularly near the beginning and lever on which the driver keeps his font.

Change-speed gear.—This is simply arrangement, usually sliding. allowing the driving to be off toothed wheels of varying diameter. If the driving toothed wheel is less in diameter than the one connected with it, the speed of rotation is reduced, if into the crank case from a sight feed, greater, increased. Usually the top-but in up-to-date cars is pumped speed is the direct drive, and for other speeds a change-speed lever operated by the driver brings by a sliding movement, the clutch being 'out,

one or other of the toothed wheels into connection, thus increasing or reducing speed. There are usually four speeds and a reverse. The reverse, which, of course, enables the car to be backed, is worked by the same lever which puts into operation a wheel between the driving and secondary shaft. Another form of gear is the 'epicyclic,' in which the gear wheels are always in mesh, thus obviating the chance of tearing when engaging, as well as joiting and noises. It is simple in operation and quite easy to understand, but the reader is again referred to the books cited at the end. After passing the changespeed gear the power is transmitted by a propeller shaft fitted with universal joints or flexible couplings to the level gear on the 'live' axle. The propeller shaft is often referred to as cardan 'shaft.

Differential gear. -- The movement is transmitted to the axle joining the wheels by a level gear, which if simple would drive both wheels at the same speed. This is satisfactory on the straight, but it is clear that in turning a corner the car is describing a portion of a circle, and the inner wheel, having a smaller circumference to traverse, must go at less speed than the outer. To allow of this the differential gear is devised; it lessens the stresses on transmission and tyres. It is perhaps the mechanism one finds most confusion about. The diagram (Fig. 8) may help to make the matter clear, at least, in principle.

In the first case each wheel W is fixed firmly to an independent axle turned by pinions D and E. These pinions



merely lock with them and not rotate. merely lock with them and not rotate. If now D accelerates slightly, C will turn slowly, retarding E, while if E accelerates C will turn slowly in the opposite direction, retarding D. This is precisely what is required in turning a corner. Now fix these in a box driven as a whole by the crown bevel pinion B, driven by the driving bevel A. When the car is on the bevel A. When the car is on the straight, D, C, E are locked, C does not rotate, and the three act as a sixtle or the car is on the straight. single axle. As the car turns, Crotates slowly, acted upon by the outer wheel. and gives the differential action. Chain drive hardly requires note. is usual to have chains to each of the rear wheels, the differential gear being on the countershaft, at the ends of which the chain sprockets are fixed. Worm-gear drive is extending in use, being very "

A worm o shaft enga:

gear wheel gear is the simplest form of transmission, and combines clutch, allspeed, and reverse gear in one mechanism. The driving shaft terminates in a large steel disc, while the axle carries a wheel rimmed with leather or fibre engaging by friction at right angles with the disc. If dis-engaged it acts as a clutch freed; the axle wheel varies speed as it changes position along the diameter of the disc; at the centre it becomes zero: if crossed over the centre the rotation The petrol engine for is reversed. pleasure and light motor vehicles has shown its great efficiency, but it cannot be said yet to have attained its final or simplest form. Many new designs are continually being tried, great effort being made to attain smooth running, less noise, and fewer parts to need adjustment or repair. The valves especially are open to improvement. Piston valve, rotary valve, and sleeve valves are all in use, the last named being specially worthy of note. Two sliding sleeves work between the piston and the cylinder walls. They carry in the upper ends two series of slots of large area, registering together at proper instants; one pair forming inlets, the other exhausts. The engine is smooth and noiseless, is not subject to pre-ignition, has high fuel efficiency, while its large area for inlet and exhaust increases flexibility.

Cycle cars.—The tendency for a long time in the motor industry was in the direction of large and powerare connected by another, C. If now put the full cars with every equipment, and capable of carrying a number of passengers. Naturally, prices redirection due to the action of C. If mained high, and had the effect of D and E are rotating at the same increasing both the effect of increasing both the effect of passengers. speed in the same direction, C will demand of the motor cycle. This has,

however, the drawback of less com- rotation within of the armature, fort and sociability. The side-car re- This consists of a steel axle on which medied the latter shortcoming, and has become extremely popular, but led to a demand for a simple, inexpensive duo-car. The Automobile Club and the Auto-Cycle Union appointed a joint committee on the matter, and 1912 saw great activity on the part of makers of cars. The Federation Internationale des Clubs Federation Internationale des Clubs Motor Cycliste, Dec. 1912, defined the cycle car as follows: Large class: Maximum weight, 784 lb.; max. engine capacity, 1100 cc.; minimum tyre, 60 mm. Small class: Min. weight, 330 lb.; max. weight, 660 lb.; min. engine capacity, 750 cc.; min. tyre, 55 mm. All machines to have a clutch and gear. It is yet too carly to attempt to describe a standard vehicle, as they vary from a miniature vehicle, as they vary from a miniature car to a sort of motor cycle converted into a one- or two-seater, three- or four-wheeled vehicle. It is more important to note their special advantages; low weight, simplicity of design, economy of upkeep, ease of handling and storing.

STEAM AUTOMOBILES .- The power is generated in a high pressure tubular boiler by means of petrol fuel. The 'flash' boiler invented by Serpollet in 1888 is chiefly used on pleasure cars; in this, water is fed at regular intervals into a copper or steel tube raised to a high temperature by a special burner and 'flashed' into steam; it is then passed through mushroom valves into the cylinder. The external generation of power renders its use in the cylinder more subject to control; the engine is much more smooth running and 'flexible, a great advantage in hill-climbing. A throttle valve regulates the amount entering the cylinders and obviates the necessity for mechanical change speed gear. No reversing gear is necessary, the engine itself being re-versible. Steam being applied alternately to front and back of piston, the action is perfectly regular, and the two cylinders giving four impulses to each shaft revolution add to the smoothness. Nofly-wheelisnecessary, of course, electric ignition m. Vibration and noise are at system. a minimum, the mechanism is simple, and the car much lighter, giving much less wear on tyres. The boiler, however, is more troublesome to start and maintain, and is more subject to derangement than the petrol motor. Steam cars are more costly in the matter of fuel.

This consists of a steel axle on which thin plates of sheet-iron are fixed edgeways, forming a cylinder. Insulated copper wire is laid along grooves and lengthways on the edges of these plates and connected up to the commutator, also mounted on the axle. The commutator is formed of pieces of copper insulated by sheets of mica. Pressing on each side are pieces of carbon, the 'brushes,' which carry the current to the armature. The action of the pole of the magnet is to repel each wire on the armature carrying a current, and the large number of wires gives a rotary movement in which each revolution is caused by a large number of power The motion is thus perimpulses. feetly smooth, with no reciprocating action. Vibration, shock, and noise practically absent. and car is almost ideal in smoothness of running. The power is transmitted to the driving wheels by reduction to the driving wheels by reduction gear, though in powerful cars direct coupling is possible. When a single motor is used, the gear wheel is mounted on a differential axle, but the use of two motors, one to each wheel, gives differential action, each motor automatically adjusting itself to the read. Sneed may be regulated to the speed. Speed may be regulated by wiring the 'field' magnets in sections, or by passing the battery current through resistances. The controller' is a form of switchboard, with the necessary connec-tions. The position of the handle is altered to various speeds; a reverse position changes the direction of the current in the armature, thus re-versing the car. The switching off the current stops the motor, while the latter is made to act as a brake by short circuiting it through a resistance, when it acts as a dynamo. Current is supplied from accumulators (q.v.). The battery will run the car at an ordinary speed for some 30 to 35 m.; it must then be recharged This, or interchanged for another. together with the fact that it forms about a third the total weight of the car, renders electric cars unsuitable for any but town work. The cost is about 'd. per m. per ton. What is required is a battery of half the weight, capable of being quickly charged. This has not been yet found: the Edison or Junger battery nickel-iron, is rather more than half weight, is larger, and of less voltage. On the whole it is an improvement, and has come into considerable use.

ELECTRICA UTDOMOBILES.—Theelectric motor consists of 'field' magnets, the limbs of which are wound with insulated copper wire, while the pulled being of the simplest design pole pieces are bored to allow of the

now fitted with magneto ignition, free engine, and change-speed gear, and can be relied on for touring and ordinary purposes. The tendency has been to give it as many Thery, Richard Brasier. In 1907 a dency has been to give it as many advantages of the motor car as possible. The two- and three-speed gear, and clutch machines are well established; handle or foot starting is common, and abolishes the running start with a heavy machine; it is possible to run slowly or use free engine in traffic, to start on any hill and climb steadily at a low speed. The valve gear is now mechanically operated instead of automatic. Machines are either belt or chain driven, the former being most popular, though the side-car has popular, though the side-car has caused the retention of the chain; a few machines are shaft driven, but this method is restricted to the four-cylinder machine. Engines are chiefly single or twin cylinder, the latter being more used with the side-car. The single cylinder retains its convenity. Jureally on account of popularity largely on account of reliability and simplicity as well as economy, and the two-stroke engine is being used successfully. cycle car appears likely to compete cycle car appears likely to compete successfully with the more powerful and complicated machines. Motor cycles are: Light weight, from 2 to 2½ h.p., 80 to 140 lb., cost about £38; medium, from 3½ to 5 h.p., about 160 lb., cost about £50; heavy weight, from 6 to 8 h.p., 2 and 4 cylinder, about 220 lb., cost about £60, but £5 to £15 extra must be added for above more degree and free every second. change-speed gear and free engine clutch. One may mention here, also, the small motor attachment sometimes fitted to the rear wheel of the ordinary bicycle.

exhibition of motor cars was held in ... England at Tunbridge Wells in 1895. being organised by Sir David Salomons. In 1896, an Act of Parlia-ment made it possible to introduce the vehicles for all uses on roads, and cars came rapidly into use. The Automobile Club of Great Britain and Ireland came into existence in 1897, and held its first trials in 1899, and events taking place on continuous has made these an annual event. In addition affiliated clubs have sprung up, and carry on a similar activity locally. These trials have been of the greatest use to manufacturers and purchasers, and account largely for the rapid rise to efficiency. The curve radius, 1000 ft. The course is Automobile Club de France, founded banked from careful scientific designs in 1896, with its headquarters in Paris,

race was run from Pekin to Paris. completely across the Old World; the route crossed the Gobi Desert, Siberia, Russia, and Germany. Starting on June 10, Prince Borghese arrived first in Paris on Aug. 10; 40 h.p. Itala car. In 1908 a 'round the world race was won by a Protos car, followed by a Thomas car; the route was New York to San Francisco, ship to China, Pekin to Paris. The Grand Prix superseded the Gordon Cup Race in France owing to dispute: 1906, Szisz (France), Renault, 63 m. per hour; 1907, Nazarro (Italy), Fiat, per hour; 1904, Mazairo (1994), France, 70 m. per hour; 1908, Laughten-schlager (Germany), Mercedes, 62 m. per hour; 1913, Boillot (France), Peugeot, 72:2 m. per hour. Amongst other important events are the Ardennes Circuit, Targa Florio (Italy), Kaiserpreis and the Her-komer International Trophy (Ger-many), Vanderbilt Cup (America), the Alpine Tour (Switzerland). The motor car has already proved its service in war, and a motor volunteer corps was established in 1903. Motor corps was established in 1903. Motor fire engines are increasing; the taxicab is gradually monopolising the towns, and is constantly used for country journeys; the motor bus competes with the 'tubes' and suburban railways; while specially designed motor cars convertible into leaders with critical division whose sledges with suitable driving wheels have been tried in antarctic exploration, though with slight success. Many large firms and stores in the large towns have been able to extend Modern Automobilism.—Thefirst their business well beyond the suburbs

roads, the roads of the British Isles shaped and 100 ft. wide; circuit, inner edge, 2 m. 1263 yds.; centre line, 2 m. 1350 yds. Length of tevel finishing straight, 991 yds., sharpest curve radius, 1000 ft. The course is banked from careful estantica declaraautomobile Club de France, founded in 1896, with its headquarters in Paris, by Colonel H. C. L. Holden, who is is the chief controlling force in international events and racing. The clectric timing, which is automatic. Gordon-Bennett Cup Race became an annual event, won in 1900 by M. Sin. The track is of concrete, 6 in. Charron, Panhard car. 38'5 m. per deep. There is also a test bill, with an hour; 1901, M. Girardot, Panhard. maximum, 1 in 4. In every respect the Brooklands Automobile Racing Club has arranged for convenience of members and the safety of the public. There are pavilion, paddock, refreshment rooms, garages, lawn tennis one of their official aviation club. The portion enclosed by the

Records.—Half-mile (flying start), V. Hémery, 1909, 14:076 sec.; speed, 127:877 m. per hour, the highest speed ever attained by an automobile. Half-mile (standing start), V. Hémery, 1909, 25:566 sec.; speed, 70:406 m. per hour,

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Kilometre (f.s.)
                     V. Hémery
                                       17.76
                                                       125.947 m. per hour.
                                              sec.
            (s.s.)
                                       31.326
                                                        71.409
                                                                  ,,
                           ,,
Mile'
            (f.s.)
                                       31.055
                                                       115.923
            (s.s.)
                                       41.268
                                                        87.233
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The above were performed on Nov. 8; Benz. 4 cyl. car.

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hr. min. sec.
                                          29
                                               2.5
                                                       1913, Talbot 4 cyl.
  50 m. (s.s.)
                   P. Lambert
                                       0
                                          56
                                              29.93
 100
                   Mons. Goux
                                       0
                                                       1913, Peugeot.
      ,,
                                              52.06 )
 150
                                          31
                    V. Hémery
                                       1
      ,,
           ,,
                                                      1912, Loraine-Dietrich 4 cyl.
                                              58.73}
 200
      ••
                   C. M. Smith
V. Hémery
                                              17.54
23.87
38.87
                                       3
                                          30
 300
         (f.s.)
                                                      ·1909, Thames 6 cyl.
      ٠,
                                       4
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         (s.s.)
      ,,
                                                      1912, Loraine-Dietrich 4 cyl.
 500
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               L. Coatalen and \
T. H. Richards
                                       7
 600
                                          57
                                             59.55
 700
                                          16
                                              34.02
                                                     1911, Sunbeam 6 cyl.
                                      10
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                                              29.88
 800
                  Resta and
 900
                                      11
                                          52
                                               3.2
             R. F. L. Crossman
1000
                                      13
                                           8
                                              25.1
          ٠.
                                          m.
                                               vds.
  1 hr.
                                          103
                                               1470
                                                       1913, Talbot 4 cyl.
         (s.s.)
                    P. Lambert
                     V. Hémery
                                          189
                                               1747
          **
  \tilde{3}
                                          284
                                                817
          ..
                                          \frac{344}{422}
                                               1344
                                                      1912, Loraine-Dietrich 4 cyl.
  4
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  5
                                               1574
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          ,,
                                         518
                                                312
  6
          ,,
               D. Resta and
                                         910 1738
                                                      1912, Sunbeam 4 cyl.
12
              R. F. L. Crossman
          ••
 24
                    S. F. Edge
                                        1581 1310
                                                       1707, Talbot 6 cyl.
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The above were all performed at Brooklands.

In addition:-

			min.	sec.				
1	m.	(f.s.)	0	28!	Marriott at	Ormond	Beach.	1906.
1	••	(s.s.)		37 🖁	Macdonald	٠,,	,,	,,
2 5	,,	(f.s.)		583	Demogeol	,,	,,	,,
5	**	(s.s.)	2	471	Marriott	,,	**	,,
10	**	,,	- 6	15	Macdonald	,,	,,	,,
15	"	>>	10	U	Lancia	,,	93	**

These are not officially recognised by the Int. Fed. of Aut. Clubs.

Motor cycle: British records-

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m. per hour
                                     hr. min. sec.
                                                                1911, Matchless Jan
                                                      91.23
Kilometre (f.s.) C. R. Collier
                                     Û
                                         0 24.52
                                                      91.37
                                            39.4
Mile
                                     O
                                         0
100 m.
                  A. J. Moorhouse
C. B. Franklin
                                        40 59.2
                                                                          Indian
                                     1
                                                                1912
                                      5
                                        36
350 "
                                             2.6
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Cycle car.—The highest speed, 59 63 m. per hour, was attained by H. S. F. Morgan, Morgan cycle car.

Grand Prix, 1913, won by Bourbeau (Bedelia), 38.9 m. per hour, but McMinnies (Morgan 3 wheeled) came in first, 39.4 m. per hour.

Motor Law.—The Motor Car Act of a tn. of Granada prov., Spain. 1 m. 1903 enforced registration of cars, from the Mediterranean. It was the licensing of drivers, regulates light-ancient port of Granada. Silk, sugar, ing, and penalises those who drive to the common danger. It imposes a speed limit on roads of 20 m. per hour, and gives power to the Local Government Board on application by local authorities to reduce speed limit, or prohibit motor cars on any roads they consider desirable. A royal in 1905 recom-

the 20 m. per hour speed mine cacepy for towns and villages where the maximum suggested was 12 m. per hour, thus leaving speeds above 20 on country roads subject only to police estimation of common danger'; higher scale of taxation, the revenue to go to up-keep of roads; emission of smoke or vapour in offensive quantities; excessive vibration and noise to be punishable. The Finance Act, 1910, raises the licence duties, according to power, from the previous 2 guineas on less than 2 tons, to prices ranging from 2 to 40 guineas; and imposed a tax of 3d. per gallon on petrol. Motor cycles are taxed at £1 uniformly. Medical men pay half duties, and 1½d. per gallon petrol. Exemption from taxes is allowed on cars speci-It d. per gallon petrol. Exemption his works were Incz de Castro, a successful play; a translation of the ally made and solely used for the conveyance of goods.

Motor signs.—For 10 m. per hour or lower limit, a round white ring, littérateur, settled in London as a formed in finite and arreading the works were Incz de Castro, a successful play; a translation of the Moteux, Peter Anthony (Pierre and Inc.).

speed in figures underneath. hibition, red solid disc. Ca Pro-Caution, dangerous corners, cross roads, steep gradients, hollow red equilateral tri-All other notices to be on

diamond-shaped boards.

See W. Fletcher, History and Development of Steam Locomotion on Common Roads, 1891; L. Lockert, Petroleum Motor Cars, 1898; W. W. Beaumont, Motor Vehicles and Motors, 1800, 6. See W. Fletcher, History and Development of Steam Locomotion on Common Roads, 1891; L. Lockert, Petroleum Motor Cars, 1898: W. W. Beaumont, Motor Vehicles and Motors, panies a crest, badge, or cont-of-1900-5; G. D. Hiscox, Horseless in Common, Cars, R. Jenkins, Motor Cars and Section in Section of the Motor Cars, R. Jenkins, Motor Cars and Section in Section in England Common Cars, R. Jenkins, Motor Cars and Carlotte and Section in England Common Cars, R. Jenkins, Motor Cars and Carlotte and Ca

wine, and fruits are produced; lead and antimony are mined. Zinc and copper are also found, and there are iron foundries. Moorish ruins remain. Pop. (com.) 20,000.

Mott, John R. (b. 1865), a social and missionary worker, born in New York. In 1888 he became student secretary of t

Associations.

chairman of th of the Student Volunteer Movement. He was made general secretary of the World's Student Christian Federa-tion in 1895, and in 1898 foreign secretary of the International Com-mittee of the Young Men's Christian Associations. He is chairman of the Continuation Committee of World Missionary Conference of Beta Kappa.

dinburgh and of numerous

books and articles on missions, etc. Motte, Antoine Houdart de la (1672-1731), a French poet, born in Paris; made an academician in 1710. Among

French Huguenot merchant on the revocation of the Edict of Nantes (1685). He wrote dramas, including The Amorous Miscr and Novelty. M. translated Don Quixole into English, and Rabelais' works with Urguhart and Ozell. See Cibber, Lives of the

Latin iges in r found. prov.,). Pop.

Law: Badminton Library, Motors and (com.) 9000. Motor Driving, 1904; W. Fletcher, Motul, a

tenance of Motor Cars; H. W. Starson, which in the presence of damp attack Car Troubles, 1913; Lord The Car, 1913; The Auk of the A. C. of Great . Ireland; The Molor Year

of the A. C. of Great.

Ireland: The Molor Year
Motor Manual: Molor Cycle Manual: only gain a hold when the skin or rind of the fruit has been slightly

Motril (ancient Firmium Julium), damaged.

Motul, a vil. of Yucatan state, Mexico, 30 m. E. N.E. of Mérida. Pop. (com.) 18,000.

Mould, a general unscientific name for a variety of thread-like fungi,

Penicillium glaucum and

Mouldings, in architecture, any assemblage of narrow surfaces projecting from the face of a wall or other surface and advancing one beled by

tal or ation. plane

or curved, and if the latter, concave or convex, or else compounded of both forms; and again are either plane or curv

by different n

profiles, their Thus the fillet, tænia, band, are all plane or flat mouldings. The corona is also a mere plane band, except that it is occasionally enriched in Roman architecture. Lesser convex M. are termed beads, but the longer M. of the same kind in the bases of columns are termed tori or torusses. The cyma recta, or cymatium, is a compound M., concave above and convex below: while the cyma reversa is convex above and concave below. The cavetto is a mere hollow or sweep in-tervening between and serving to connect two M., one of which projects beyond the other. The ovolo is a alled be-

nto ova, of eggs. M. may

be carved or enriched, except the cavetto and fillet; the pattern being accommodated to the surface of the M. The cyma recta, or talon, as it is sometimes called, is cut with a peculiar kind of tongued or arrow-headed ornament. In regard to Grecian M., it remains to be observed that many of those which are uncarved were painted with some ornamental pat-tern, and not unfrequently in the most brilliant colours.

Moule, Le, a tn. in the French colony of Guadeloupe, W. Indies, with a port on the N.E. coast of Grande-Terra. Sugar, coffee, rum, and log-wood are exported. Pop. (com.)

11,000.

Moulins (ar Allier dept., which has an

at this point.

castle of the Bourbon dukes, and a cathedral (founded 15th century, completed 19th century). M. forms a suffragan bishopric of Sens. cathedral Manufs. include textiles, hats, cabinets, and machinery. Pop. (com.)

Moulting, a general term for the habit in a large variety of animal types of shedding, periodically, the outer covering—feathers, hair, skin, cuticle, etc. In common usage it refers to the annual renewal of birds' feathers, which usually follows the completion of recental duties. the completion of parental duties.

Moulton, Mrs. (née Ellen Louise Chandler) (1835-1908), an American onanier) (1835-1908), an American novelist and poet, married to W. Moulton, a Boston publisher (1855). She was for long Boston correspondent on literary topics for the New York Tribune. Her works include: This, That, and the Other, 1854; Juno Clifford, 1855; Bed-time Stories, 1873; Firelight Stories, 1883; Some Women's Hearts. 1874; Swallow-Flights..., 1875; the Garden of Dreams, 1800. 1878; In the Garden of Dreams, 1890. She edited P. B. Marston's Garden Secrets with biography (1887) and Collected Poems (1892). See Whiting's

Life, 1910. Moulton of Bank, John Fletcher Moulton, Lord (b. 1844), born at Madeley, Salop. He graduated as senior wrangler and Smith's prizeman in 1868 at Cambridge. Called to the bar in 1874, he established the leading practice in patent law, on which he was recognised as a supreme authority. He took silk in 1885. He sat as a Liberal member of parliament for Clapham, 1885-86; S. Hackney, 1894-95; Launceston, 1894-1906. when he became a Lord Justice of Appeal. In 1912 he became one of the Lords of Appeal in Life, 1910. came one of the Lords of Appeal in Ordinary or Law Lords and received

a life peerage. Moultrie, John (1799-1874), an English poet, born in London. He entered the Church and was rector at Rugby from 1825 to his death, during the time Thomas Arnold was head-master. In 1864 he became canon of Worcester. His collected works were published, in 2 vols., in 1876. His best poems were: My Brother's Grave 1820) and Godiva (1820), and he also wrote: The Dream of Life, 1843; The Black Fence, 1850; St. Mary, 1850; Allars, Hearths, and Graves, 1854.

Mound Birds, or Mound Buiders

(Megapodes), a remarkable family of gallinaceous birds, which are so called on account of their habit of throwing on account of their means of construction up large mounds of vegetable matter in which they deposit their eggs, and after covering them up leave them to be incubated by the heat produced by fermentation. In some cases the mounds are co-operative. The mounds are species number only about twenty, and are characterised by very large feet, short tail, and crested head. familiar example is the brush turkey

Mound Builders, the prehistoric in-habitants of N. America, who lived nantants of N. America, who lived mainly in the valleys of the Mississippi and Ohio. There are various opinions about their identity, but the generally accepted view now is that the Indians are their descendants, and that they belong to the Stone Age. They appear to have surpassed the Indians (when first met by the Indians (when first met by the

most wonderful works of their hands were the earth mounds from which they receive their name. These vary in shape, being round, conical, or in the shape of animals, and are scattered all over the country between the Alleghany and Rocky Mts., but chiefly in Ohio, Illinois, Indiana, and Missouri. The most famous mound in Ohio is the Great namous mound in Ohio is the Great Serpent in Adams co., near Bush Creek. This, a glyantic serpent made in earth, measures 1348 ft. in length and is 5 ft. high. Wisconsin, too, contains some mounds in the shape of animals, some of gigantic size. These, Experally known as efficy mounds, were really shown as efficy mounds, were the highest of working segment proknown as emgy mounds, were pro-bably objects of worship as guardings of the villages. In Tennessee other kinds of mound found contain of or more graves, varying in size, made of slabs of stone set on edge.

Mound Dwellings, underground or semi-underground dwellings, which were at one time very widespread. The earliest M. D. was discovered about 1724, near Lucan, co. Dublin, Ireland, and in Scotland there are The carliest M. D. was discovered about 1724, near Lucan, co. Dublin, Ireland, and in Scotland there are many varieties, numerous instances of Lucan control on the coasts of Lucan control of Lu all the Orkney Is. On the shores of N.E. Siberia, the

these were those us natives of Kamchatka and the Aleu- the ascent of al have set a fashion in tian Is., and the winter dwellings of the Greenland Eskimos were practi-cally identical. M. D. were usually circular or oblong in shape, and had the appearance of a large rounded hillock, and were entered by a low, narrow passage.

whites) in civilisation, and made tree of the order Rosacee, with pin-very beautiful objects of stone, shell, nate leaves and large corymbose bone, and beaten metals. But the cymes of small cream flowers, which are followed by small fleshy scarlet berries with yellow flesh, which have a bitter acid flavour, and are much eaten by birds. They have been dried and ground into a kind of flour. The tree attains a height of from 10 to 30 ft. Its tough wood has numerous

Mountaineering. The awe and inspiration associated with mountains is well illustrated in the O.T. and in the Greek classics; it amounted to fear and avoidance. We hear of Trajan viewing the sun-rise from Ætna, we have the ruins of temples and churches on hills, Poter III. of Aragon climbed Canigou in the Pyrenees, Petrarch found moral inspiration on Mt. Ventoux near Avignon, Bonifacio de' Rotari climbed the Roccia Melone (11,600 ft.) in 1358 on mpious mission, Leonardo da Vinci saide scientific observations on a recofield at Val Sesia, but the first real ded ascent of a mountain. in the real sed ascent of a mountain, in the

the true, enthusiasshores of N.E. Siberia, the
borean race of the Onkilon dwelt in have, probabling spirit; here also we
earth huts, half sunk
in the form of small
with a thick layer of
these were those us

and from date the

De Luc.
Velan (12,000 immen tempor in
Blanc is said (t.) in 1779. Mont
by a party of n have been ascended
true conquest lives in 1775, but its Buet was narrow passage.

Moundsville, co. seat of Marshal co., W. Virginia, U.S.A., on the Ohio at the mouth of Grave Creek, 12 m. S.W. of Wheeling. Manufs include glass, bricks, enamel ware, whips, and cigars. Pop. (1910) 8918.

Mountain, a tn. of Dundas co., Ontario, Canada, 30 m. S.S.E. of Ottawa. Pop. about 3000.

Mountain, The (Fr. La Monlagne), the name given to the extreme Revolutionary party, led by Danton and Robespierre, in the legislatures of the first French Revolution.

Mountain Ash, a tn. of Glamorganshire, Wales, 4 m. S.E. of Aberdare. It is included in the part, bor. of Merthyr-Tydvil. There are iron foundries, water and gas works, and collierles near. Pop. (1911) 42,256.

Mountain Ash, or Rowan (Pyrus Mounta

tended from Mont Blane through the Alps of Bern and Uri to the Tyrol, where Thurwieser and Ruthner were at work. J. D. Forbes (whose book, Travels through the Alps of Savoy, appeared in 1843), Sir John Herschel, Lord Minto, and John Ball (the first president of the Alpine Club), were among the Englishmen who were attracted by the Alps. But Mr. Wills (now Justice), who in 1854 climbed the Wetterhorn, may be said to have set the fashion in M. as a sport. Mt. Rosa was climbed in 1855, after many unsuccessful attempts of previous years. The English Alpine Club was inaugurated in 1857, and published two years later, under the editorship of Mr. Ball, Peaks, Passes, and Glaciers, a second series following later. These publications gave accounts of the climbing and exploration of members of the club, and led to the first number of the Alpine Journal in 1863. Among the members who have published books are Mr. Hinchcliff, Mr. Whymper, Prof. Tyndall, Sir Leslie Stephen, and Mr. Justice Wills. The French Alpine Club was formed in 1874, and was followed by others. followed by others. At the present time the membership of the clubs may be estimated as follows: English, 700; French, 5500; Italian, 6500; Swiss, 9700; German and Austrica Alpine Club, 75,600 Austrian Alpine Club, 78,500. famous disaster of the Matterhorn amous disaster of the Matterhorn occurred in 1865; Mr. Whymper was one of the party. The Alps were the home of M., and all the great guides have been natives of that region. Among them many have become justly famous: Auguste Balmat, the brothers Jean Baptiste Croz, Michael Croz (lost on the Matterhorn), Francois Dévoussoud, Melchior Bannhoizer, Melchior Anderegr. Peter Bauzer, Melchior Anderegg, Peter Bau-mann, Christian Almer, and Ulrich Lauener. The Alps have not claimed the sole attention of climbers. Mr. Douglas Freshfield visited the Caucasus in 1868, and most of the great casus in 1868, and most of the great 1898; Gilbert and Churchin Peaks had been climbed by 1888. In Dolomite Mountains, 1864; N. America, the Rev. W. S. Green visited the Selkirks in 1888; S. America, Mr. Whymper the Andes in 1879-80, when he ascended Chimborazo and explored the mountains of Equador. In 1883 Dr. Gussfeldt the Alp ascended Mainer and et travated Acon. ascended Maipo and attempted Aconcagua in the Cordilleras between ing in Cagua in the Cordilleras Delivera (194 billion) Chilli and Argentina. The summit of Aconcagua was reached by the Fitzgerald expedition in 1897. Sir W. G. D. Martin Conway climbed Illimani in the Rollvian Andes in 1898 and ingins. the Bolivian Andes in 1898, and ing in Same, carried out explorations in Tierra del Fuego. New Zealand.—The Rev.

1813; many other peaks were as- W. S. Green worked in the Alps in cended, including the Galenstock 1882, and the New Zealand Alpine and Wetterhorn. The activity ex- Club was formed, the members of tended from Mont Blanc through the which have carried on the work. Mr. which have carried on the work. Mr. Fitzgerald was there in 1895. Africa. —Kilima Njaro, by Dr. Hans Moyer and Herr Purtscheller, 1889; Kenia, Mr. Mackinder, 1899; Ruwenzori, Morris, 1900. Asia.—Sir W. Martin Conway explored in 1892 the Karakorum Mts., and ascended a peak of 23,000 ft. In 1895 Mr. A. F. Mumery lost his life in attempting Nanga Partat. Mr. Freshfield headed an expedition to the snowy regions of Sikkim in 1899. A great deal of ex-Sikkim in 1899. A great deal of exploration has been carried out by Gurkha Sepoys trained by Major the Hon. C. G. Bruce. Arctic and Antarctic.--Exploration in these regions partakes largely of one branch of M. The crossing of Greenland by Nansen and others, and the work of Peary in the same region, may be mentioned. In 1896 and 1897 Sir W. Martin Conway explored the mountains of Spitzbergen. Mt. Erebus, in Antarctica, was climbed by Dr. Mawson's party during Shackleton's expedition towards the South Pole. Climbing in the mountains is very varied, but glacier work and rock climbing are the fascinating branches. It is generally a very expensive matter nowa-days. Guides are organised (those of Chamounix in 1821 or 1823); in many parts of the Alps it is not permitted without guides. Rock climbing has become a famous sport in the mountains of the British Isles, and particularly in N. Wales and Cumberland, and on the Black Coolin in Skye. See Conway, Climbing in the Himalayas, 1847; Gottlieb Studer. Ueber Ets und Schnee, 1896-99; Whymper, Scrambles among the Alps why in per, Scrainless among the Africa in the Vears 1850 to 1859, and Great Andes of the Equator, 1892; Fresh-field, Italian Alps, 1875, and Ex-ploration of the Caucasus, 1902; Coolidge, Swiss Travel and Swiss Guide Books; Spender and Smith, Through the High Pyrenees; C. E. Grand Country of the High Pyrenees; O. Mathew, The Annals of Mont Blanc, 1898; Gilbert and Churchill, The Mounte

> Mountaineering Club. Mountain Limestone, the compact

boniferous series which occurs in the mountain area of the Pennines. It is from 2000 to 4000 ft. thick, and is

crowded with corals and encrinites. Mountains. The M. of the world occur chiefly in great systems forming chains or ranges of more or less parallel series, widening, narrowing, and forming nodes and radiations. There is sufficient appearance of scheme in these systems to lure geographers to formulate theories accounting for their arrangement. They border the edges of continents and appear to rise from deep ocean; the ranges are often continued out to sea and through the ocean as a series of islands suggesting subsidence of part of the system, e.g. the Aluvian Is., the E. Indies, and Pacific Is. to New Zealand, which are again continued in the recently discovered ranges across Antarctica to connect with the Andes of S. America. The depths of the Pacific Ocean are thus bordered by a complete encircling M. system. Again, the Eurasian system from the Pyrenees across to the Pamirs follow the Mediterranean, Black Sea, and Persian Gulf coast lines. Such a scheme may be followed out in detail amongst all the M. of the world, and it is impossible to exclude from any theory the conformation of the crust below the waters. The evidence of geological structure of the M. goes far to explain the scheme, and it is considered that the great M. systems are due to the shrinkage of the earth's surface consequent on cooling, a subsidence being accompanied by an ele-vation, parallel and more or less commensurate. Such a theory has led to somewhat of a mathematical investigation. A cooling body would shrink to smallest volume, and the smallest volume for a given surface is smalest volume for a given surface is found in the tetrahedron (a.v.); the earth in cooling would, in fact, tend to the tetrahedral form, though other considerations such as its rotation would act against this. It is nevertheless true that if a volume of water, sufficient to cover five-sevenths of the surface, could be held by gravity in a tetrahedron, the arrangement would be quite similar to that on the earth, be quite similar to that on the earth, the edges forming M. systems and continents, the faces the ocean. This theory was promulgated by Lothian Green. It would seem, however, to imply, though not necessarily, two consequences: the permanence of the great M. ridges and that of the deep oceans. It cannot be said that either is established; there is a good deal of is established; there is a good deal of evidence for the former but considerable evidence against the latter. The the latter, a raised block due to bi-present great M. systems were up-lifted in Tertiary times, at any rate to by weather and streams an irregular

bluish limestone of the Lower Car-their present altitude, but this may have been only an additional thrust, On the other hand, the M. of Scandinavia, W. Scotland, and Ireland, and also the Appalachian system, are much older and were probably once much higher. As regards the forma-tion of M., it is possible to classify in part. The surface of the earth is subject everywhere to denudation (q.v.), and the elevated regions specially so.



FIG. 1

Yet there are M. which owe their resistence to the denudation alone of elevated folds in the earth's crust. Such Folded M. are illustrated in Fig. 1. The diagram also shows clearly the relation of Foot-hills to their axial range. Fig. 2 shows a more complicated system, well showing the enormous contortionary force, the

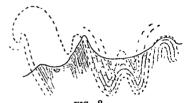


FIG. 2

steep angles of M. strata, which often give rise to fantastic scenery and the impression of catastrophic forces. A special type of denudation M. is often classed as Relict or Residual M. (Fig. 3). In this case denudation has been prolonged, and it is quite common to find the synclines forming the ridges.

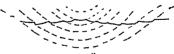
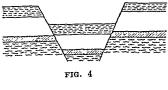
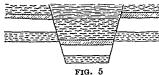


FIG. 3

There are, however, many types of relict M. M. are often the result of faulting and consequent slipping of strata; they may be classed as *Block* M. Figs. 4 and 5 illustrate their formation. The former shows a rift valley edged by mountainous sides, which may weather into peaks, etc.; the inter, a raised block due to bilateral subsidence. When dissected

M. mass results; if the block is tilted, a range of M. results. An intrusion of volcanic rock may have the effect of clevating the strata into a dome-like shape, which gives rise on denudation to a group of M.; to these the name Domed M. has been applied. In all cases separate M. owe their form to denudation. The central 'core' when highly inclined gives rise to the peaks, aiguilles, and horns. The Rockies, Andes, Pyrenees, Alps, Himalayas, and the other portions of the great connected systems of the world are-young folded M.; the Scandinavian M., Scottish M., Urals, Australian M., are examples of old, residual, or relict folded M.; the Vosges and Black Forest M., the M. enclosing Bohemia, and many of those in Central Africa, are block M. M. have largely served to isolate or separate communities and thus determined nationality and





The Latin and Teutonic races have been thus largely separated, while Switzerland

Abyssinia owe mainly to the na tries; the Andes marked example

Great range of climate is shown in elevated ranges, which gives a characteristic zonal distribution of vegetation arranged according to elevation, and, as in Uganda, Brazil, Peru, and Mexico, renders possible an energetic and progressive population in lati-tudes where lowlands are enervating. On the other hand, in Tibet, the climate forbids progress. In Norway and ancient Phoenicia, Greece, Spain, and Portugal M. have largely en-forced maritime enterprise. They, further, are a great factor in local climate, as in the Mediterranean, the Ganges valley, and New Zealand. Egypt is a remarkable case of estab-

sinian and Central African groups that it can traverse the desert; the The Föhn. Indus is a similar river. Chinook, and North-Westers of New Zealand (q.v.) are examples of beneficial winds due in part to M. The form of dissection of M. masses is often of great importance, particularly in the matter of transverse valleys, cols, saddles, and necks. Many instances occur in the Alps of Switzerland. In England the gaps in be-tween M., e.g. the Cheshire plain; saddles such as Shap Fell and the transverse valley of the Aire, have had great influence on communication, both military and commercial (see RIVERS and VALLEYS). The great M. systems are further the regions of most frequent earthquakes (see EARTHQUAKES). They are, further. often associated with the distribution of volcanoes. These are M., but except in height in no way to be classed with them, being merely accumulations of material thrown out from vents along the lines of faulting. Where fold M. are young, and elevation, subsidence, and faulting are not quiescent or complete, earthquakes are likely to be experienced, and if in regions near deep water, e.g. Mediterranean and Pacific, the intrusion of the water along faults and cracks gives rise to volcanic activity (see VOLCANOES). As it is largely in mountainous regions where the lower strata are exposed or near the surface, they become the centres of the mining of valuable, because somewhat rare, metals, e.g. the Rockies and Andes, the Australian and New Zealand Alps. See E. Suess. The Face of the Earth (trans. Oxford), 1904, 1906; A. Penek, Morphologie des Erdoberfläche, 1894; G. de la Noë and E. de Margerie, Les Formes du Terrain, 1888; W. M. Davis, Physical J. Geikie, Earth E. Marr, Scientific

1900; Lord Ave-Switzerland, 1896;

W. L. Green, Vestiges of the Molten Globe (vol. i.), 1875, (vol. ii.) 1887; Dr. T. Arldt, Die Entwicklung der Kont. und ihr. Lebewell, 1907; Millard Reade, Origin of Mountain Ranges Reade, Origin of Mountain Ranges, 1886; O. Fisher, Physics of the iteade, Origin of Mountain Ranges, 1886; O. Fisher, Physics of the Earth's Crust, 1889; J. W. Gregory, The Making of the Earth. See also RIVERS, VALLEYS, GLACIERS, etc., and GEOLOGY and its bibliography. Mountain Wine, a sweet, luscious variety of the white Spanish wine of Malagra made from white granes.

Malaga, made from white grapes picked when quite ripe.

Mount Barker: 1. A tn. of Hind-marsh co., S. Australia, 18 m. S.E. of Adelaide, at the foot of Mt. Barker. lished civilisation dependent on M., Much fruit is grown, and there are for the Nile is fed so well from Abys-tanneries. Pop. 2000. 2. A postal

centre of Plantagenet co., W. Australia, 30 m. from Albany. Pop. 1500.
Mount Carmel: 1. The cap. of Wabash co., Illinois, U.S.A., on the Wabash R., 24 m. S.S.W. of Vincenses. There are mills, railroadshops, and manufs, of bricks, furniture, and paper. Pop. (1910) 6935. 2. A bor, of Northumberland co., Pennsylvania, U.S.A., 6 m. from Shamokin. Coal is mined, and min-ing machinery and miners' supplies

are manufactured. Pop. (1910)17,532.

Mount Clemens, a health resort, cap. of Macomb co., Michigan, U.S.A., on Clinton R., 20 m. N.N.E. of Detroit. There are noted mineral springs. Beet-sugar, lumber, wagons, sleighe, and cicars are meanufactured.

sleighs, and cigars are manufactured. Pop. (1910) 7710.

Mount Desert, an island of Hancock co., Maine, U.S.A., in the Atlantic, W. of Frenchman's Bay. The surface is mountainous; highest peak, Green Mt. (1762 ft.). There are numerous lakes and mountain tarns. Bar Harbour is a favourite summer resort. Fishing and shipbuilding are carried on. Pop. (1910) 8000.

Mount Egerton, a vil. of Grant co., Victoria, Australia, 50 m. W.N.W. of Melbourne, in a gold-mining district.

Pop. 2500.

Mount Forest, a tn. of Wellington co., Ontario, Canada, 70 m. W. by N. of Toronto, on the Saugeen R. There are grist, flour, and woollen mills, and brick-fields. Pop. 2300.

Mount Gambier, a tn. of Grey co., . Australia, 228 m. S.E. of Adelaide. It is the centre of a very rich grain-

growing district. Pop. 8000.

Mount Lofty, a settlement and hill
(2334 ft.) of Adelaide co., S. Australia, 11 m. S.E. of Adelaide. It is a

favourite resort. Pop. 5000. Mountmellick, a market tn. of Queen's co., Ireland, 6 m. N.W. of Maryborough. There are woollen manufactures, potteries, iron and

land, Australia, 22 m. Rockhampton, Pop. 6000.

Mount Pleasant, a bor. of Westr land co., Pennsylvania, U.S.A., 32 S.E. of Pittsburg, in a rich agri tural district. Coal is mined, manufa include lumber discrete. manufs. include lumber, flour, gl and iron goods. There are coke

browing industries. Pop. (1910) 5812.
Mountstephen, George Stephen,
Baron (b. 1829), a Canadian financier,
born at Dufttown, Banfishire, Scotland. He emigrated to Canada in treal, where his abilities soon secured 1850, and went into business in Monhim an excellent position and he he-breeding nest, built on corn-stalks came director and president of the used as scaffolding, is an exquisite

Bank of Montreal. In partnership with his cousin, Donald Smith (later Lord Strathcona), he purchased the St. Paul and Pacific Railway, and they then started the construction of the Canadian Pacific Railway, which was completed in 1885. The following year he was made a baronet, and raised to the peerage in 1891, taking his title from a peak in the Rocky Mts. named after him while the railway was in course of construction.

way was in course of construction. He left Canada in 1888, and has since lived in England and Scotland. A great philanthropist, he has given generously to all kinds of charities. Mount Vernon: 1. A city of Westchester co., New York, U.S.A., on the Bronx R., 18 m. N. E. of New York. Pop. (1910) 30,919. 2. The cap. of Jefferson co., Illinois, U.S.A., 74 m. E.S.E. of St. Louis (Missouri). There is coal-mining and trade in lumber. Pop. (1910) 8007. 3. A tn. of Fairfax co., Virginia, U.S.A., on the Potomac R., 15 m. S. of Washington. Washington's mansion was purchased for the ton's mansion was purchased for the nation in 1859. Pop. (1910) 1500.

4. The cap. of Knox co., Ohio, U.S.A., on the Vernon R. and Owl Creek, 40 m. N.E. of Columbus. It has coping works foundries will a man and the columbus. engine works, foundries, mills, and a steel plant. Pop. (1910) 9087. 5. The cap. of Posey co., Indiana, U.S.A., on the Ohio, 13 m. from the S.W. corner of the state. There are flour mills, lumber and engineering works, and cooperages. Pop. (1910) 5563.

Mourne Mountains, a range in the S. of Down co., Ulster, Ireland, extending 11 m. from S.W. to N.E. between Newcastle on the Irish Sea

between Newcastle on the Irish Sea and Carlingford Bay. Slieve Donard is the highest peak (c. 2796 ft.). Mouseron, or Moeskroon, a com. and tn. of W. Flanders prov., Bel-gium, 7 m. S.S.W. of Courtral. Manufs. include woollens, cottons, tobacco, chicory, chocolate, and oll. It is a customs station. Pop. (com.)

Mount Morgan, a gold-mining number of small redents of various municipality of Ragland co., Queensland, Australia, 22 m. S.S.W. Rockhampton. Pop. 6000

..

The fur varies greatly in tint and markings when the animals are bred in captivity. The whistling bird-like song of certain mice at dusk is an established fact. The harvest M. is unique among British mammals in having a prehensile tail. Its spherical a handsome, bold creature, and does much damage to farm and garden crops, hunting for food at night.

Mouse River, a Canadian river (500 m. long), rising in Saskatchewan, flowing S. into N. Dakota, then E., turning sharply N., recrossing the frontier, and finally joining the Assini-

boin near Brandon. Mousquetaires, a French word armed meaning soldiers with musket. Such soldiers were at first included in companies of pikemen in the proportion of one to three, whilst the muskets used were so heavy that valets were employed to carry them, until abolished by Charles IX. From 1600-22 M. were called carabineers, but resumed their old name under Louis XIII. After the king's M. had been suppressed, from 1646-57, Mazarin presented his personal guard to Louis XIV. in 1660, and there were thus from 1664 two separate forces known as 'white' and 'black' M. Under Louis XIV. these companies formed in large measure a school

for youthful nobles. M. were suppressed in 1775, reorganised in 1789, disbanded in 1792, reappeared in 1814, and finally abolished in 1815.

Moussorgski, Modest (1835-81), a Russian composer. He left several choral and some instrumental works, in addition to three operas, of which Boris Godounoff (1874) is the chief, but his fame centres for the most part on his association with Cui, Borodin, Borodin, Balakireff, and Rimski-Korsakoff in the nationalist movement.

Mouth, the entrance to any cavity or canal; in particular, the entrance to the alimentary canal between the lips, including the cavity in which mastication takes place. The lips are folds of flesh composed of skin, areolar tissue, or superficial fascia, the orbicularis ovis muscle, sub-mucous tissue, and mucous membrane. The cheeks are similar in structure, except that they are actuated by the buccinator muscle, which compresses the cheek and retracts the angle of the lips. The opening of the duct from the parotid gland is situated on the M. side of the cheek opposite the second upper molar tooth, while other salivary ducts are situated on the same surface. The gums are composed of mucous mem-

structure. The long-tailed field M. is tissue connecting with the superior a handsome, bold creature, and does maxillary and palatal bones; the soft palate is composed of an aggregation of muscles. Diseases of the M. include caries and other affections of the teeth; stomatitis, or inflammation of the M., characterised by swelling, salivation, pain, and ulcera-tion; salivary calculus, or stony concretions in the salivary ducts; and mumps, a highly infectious disease of the parotid gland, characterised by swelling and difficulty in swallow-

Mouvaux, or Mouveaux, a com. of Nord dept., France, 7 m. N.E. of

Lille. Pop. 7500.

Moville, a seaport and watering-place of Donegal co., Ireland, on Lough Foyle, 18 m. N.E. of Londonderry. It is a port of call for Transatlantic (American) steamers. 1200.

Moving Plant, or Telegraph Plant (Desmodium gyrans), an plant (order Leguminosæ) pinnate leaves, the leaflets having a rapid up and down or rotatory movement especially in sunshine. It bears violet flowers, and is sometimes grown in the stovehouse.

Mowing Machines are of two main kinds, viz. those used for cutting

the object is to save the hay or fodder crop. The former, commonly called lawn mowers, vary in size from those for small lawns that can be pushed by a child to large machines driven by a motor. Cutting is performed by steel blades arranged spirally on a cylinder which revolves near the ground. The agricultural implement has a long cutting-bar in which a series of knives work scissors-fashion from gearing attached to the carriage wheels.

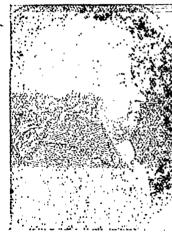
Moyobamba, cap. of Loreto dept., Peru, S. America, 140 m. from Jaen, on a trib. of the Huallaga. Panama hats are manufactured. Pop. 10,000.

Mozambique: 1. A dist. of Portuguese E. Africa, bounded on the E. by the Indian Ocean. Area 100,000 sq. m. The principal rivers are the Rovuma, Zambezi, Pungwe, Sabi, and Limpopo. The vegetation is tropical, the chief products being sugar, cocoanuts, rubber, indigo, and orans are composed of mucous membrane superposed upon fibrous tissue of the jaw-bone. The teth are fixed in 362,734. 2. Chief tn. of the above, the gum and jaw-bone, and the mucous membrane of the gum rises up round each tooth. The roof of the (1910) 4800. 3. A channel between M. is formed by the hard and soft the E. coast of Africa and Madagascar. palate. The hard palate consists Length (about) 1000 m., breadth from of mucous membrane and fibrous 260 to 600 m. At the N. entrance lie tobacco. There are valuable coal dethe Comoro Is. See Iliveira Martins, sister, Aloysia, had not long pre-Portugal em Africa, 1891; and R. N. viously refused him. The marriage, Portugal em Africa, 1891; and R. N. Agricultural

who lived under Moorish rule in Spain, being allowed at the same time to retain religion. They conformed almost entirely to the customs of their conquerors, even to the extent of using Arabic characters in the writing of Spanish. They were well treated, and continued to retain the

Mozarabic liturgy.

Mozart, Wolfgang Amadeus (1756-91), born at Salzburg. At the age of six he made his début in Vienna as a prodigy violinist and pianist; a year later he had published his first sonatas, and at the age of twelve, besides having the reputation of being able to play at sight any composition for organ, clavier, or violin, he had written an opera, a symphony, and a large quantity of smaller works. By the time he was



WOLFGANG MOZART

twenty-five he was well known in Vienna, Munich, London, Paris, and Milan as one of the world's greatest composers; everywhere he met with excellent receptions, not only by reason of his wonderful playing and brilliant genius as a composer, but also on account of his great personal charm and vivacious disposition. Leaving home finally in 1781, he took up his abode in Vienna, where, in the course of the next twelve months, he married Constance Weber, whose his writings are: The Augustinian

though happy enough on purely grounds, mutual was hardly success in other respects. M. was none too wealthy, generous to a fault, and devoid of business capacity, fault, and devoid of dusiness capacity, and the ten years or so which yet remained to him were consequently passed in a hard struggle against poverty and debt. As a composer, M. is remarkable as the possessor of a gift of extraordinary fluency; as a melodist he showed the same limpid heavity as Mayday in the richness of heauty as Haydra; in the richness of his harmony and colouring he anti-cipated Beethoven, and he was as skilled in counterpoint as Handel, if not of Bach himself. His orchestral music is an advance on anything previously written, and many of his symphonies, especially the last three in E flat, in G minor, and in C, the Jupiter (all 1788), and some of his piano and violin concertos, are still able to hold their own as favourites with modern audiences. His operas are perhaps his most characteristic works, showing as they do his superb technical mastery and inventive skill in the most felicitous bination, although his libretti are often preposterously bad, His chief often preposterousiy oud. His emer operas were: La Finta Giardiniera and Il Re Pastore, 1775; Idomenee, 1781; Le Nozze di Figaro, 1786; Don Giovanni, 1787; Cosi fau Tutti, 1790; Giovanni, 1787; Cosi fau Tutti, 1790; and Die Zauberflöte, 1791. M. also wrote much church music, a large number of instrumental sonatas and vocal works, both solo and concerted, and a quantity of chamber music, his total compositions exceeding a thousand (standard ed., 1876-86). See Life by Otto Jahn (Eng. trans.), 1882.

Mozdok, a tn. of Ciscaucasia, Russia, 1802d, 2007, 50 m. N. of Vichilieration.

Terek gov., 50 m. N. of Vladikavkaz, on the Terek. It trades chiefly in fruit, wine, and silk. Pop. 15,000.

m. S.S manufs. of leather, hardware, and beer, and trade in lumber, grain, and It contains a Roman live-stock. Catholic cathedral. Pop. 11,000 (one-

fifth Jews).

Mozley, James Bowling (1813-78),
an English divine and theological writer, born at Gainsborough, Lincolnshire, and studied at Grantham and Oriel College, Oxford. At the latter place he became intimate with the leaders of the Oxford Movement. in which he himself took part, until the Gorham judgment compelled him to withdraw. In 1856 he became vicar of Old Shoreham; in 1869 canon of Worcester; in 1871 reglus professor of divinity at Oxford. Among

Doctrine of Predestination, 1855; The starch M., is used for making enemas-Primitive Doctrine of Baptismal Re- A M. formed from the pith of sassageneration, 1856; Review of the Baptismal Controversy, 1863; Theory of Development, 1878; and Essays Historical and Theological (2 vols.), 1878.

Mstislavl, a tn. of Mohilev gov., Russia, 60 m. N.E. of Mohilev, with trade in home.

Missia, oo in I. N.E. of Holmey, when trade in hemp. Pop. 10,000.

Mizensk, or Misensk, a tn. of Orel gov., Central Russia, on the navigable Zusha R., 30 m. N.E. of Orel. There is trade in cereals, hemp, oil, etc. Candles, soap, tallow, and lace are meaning that the cathedral control of the cath The cathedral are manufactured. contains a miraculous image of St. Nicholas, and there is a spring near by reputed to cure diseases. Pop. 10.000.

Mtzkhet, Mtskheta, or Mtskhet, a vil. of Tiflis gov., Transcaucasia, Russia, ancient cap. of Georgia, at the confluence of the Aragva and the Kura. It contains a fine cathedral, and the tombs of many Georgian rulers. Pilgrims from the Caucasus

still visit M. Pop. 800.

Muanza, a dist. and vil. of German E. Africa, S. of Victoria Nyanza. The dist. includes the rich cattle country Usukuma, and the barren Masai plains. The village, cap. of the dist., is on Smyth Sound near its entrance into Victoria Nyanza. Pop. of dist.

300,000; of vil. 3000.

Much Wenlock, Shropshire, England. See Wenlock.

Much Woolton, see WOOLTON. Mucilage, an aqueous solution of a gum: some gums form a clear solution in water, while others swell up to form a sticky viscous liquid, more properly called mucilage. The Ms. are used in the arts as adhesive substances, to thicken and stiffen cotton fabrics, etc.; and in medicine as emollients or demulcents. Mucilago Tragacanthæ is prepared from the gum which exudes from the stem of Astragalus gummifer. The gum is imported which from the stem of the stem o ported chiefly from Smyrna, and is in the form of thin twisted plates of a horny consistency. When mixed with water it swells by absorption, and is capable of absorbing fifty times its weight of water to form a thick M. It is used to thicken colours in calicodyeing, and in medicine to suspend insoluble substances, to make up pills, and as an application to irritated surfaces, particularly mucous mem-branes. Cherry-tree gum also forms a thick M. Gum kuteera and gum of Bussorahare often imported as adulterants of gum tragacanth; their properties are somewhat similar to those of gum tragacanth. Mucilago acaciæ is formed by adding 34 parts of acacia to water to make 100 parts; it is used as a substitute for mucilago

tragacanthe.

fras is used as a soothing application for inflamed eyes, and also as a demulcent drink for inflammation of the mucous membranes and of the Mucilago Ulmi is formed kidneys. from elm gum: other Ms. are produced by infusing seeds, roots, etc.,

in boiling water. Mucin, a viscid substance, capable of being split up into a proteid, and a carbohydrate found in the human body in the bile, urine, fæces, saliva (in which it acts as a lubricant), and gastric juice, but most abundantly in intercellular substance. The presence of quantities of cane sugar in the stomach excites the production of mucus, and causes the digestion of the sugar which does not digest in the normal gastric secretion. M. is soluble in weak alkalies, and is precipitated from solution by alcohol and acetic

Muckers, a name given to a sect which arose at Königsberg, Germany, in 1835, its chief leaders being J. W. Ebel and G. H. Diestel. The opinions of the sect were so expressed as to cause an uproar directed against their sensuality. For a defence, see . Mombert's Faith Victorious, 1882

Mucoid, a substance resembling mucin in many ways, but differing from it in some chemical reactions. M. is not precipitated from solution by acetic acid. Sometimes it precipi-tates slightly, but is then soluble in excess of acid. It is thus distinguish-

able from mucin.

Mucous Membrane, see Epithelium. Mud, a term employed for the impalpable argillaceous matter which settles in quiet waters. When consolidated and devoid of lamination, it is known as mudstone. The dark blue muds of the sea bottom derive their colour from decomposing organic matter and sulphide of iron, while the green muds are so coloured from the glauconite grains which they contain. Near coral reefs the sea floor is covered with white M. due to the abrasion of coral, while round volcanic islands a grey M. formed from degraded volcanic rocks is found.

Mudfish, or Bowfin (Amia calva), a fish occurring in the N. American lakes and rivers which has the airbladder highly developed as a lung sac. so that it can live out of water for a long time. It is about 30 in. long, and a dark mottled green. It feeds a dark mottled green. It feeds voraciously upon crustaceans and insects, but its flesh is soft and illflavoured.

Mudgee, a gold-mining tn. of Wellington co., New South Wales, on the Cudgegong R., 60 m. from Bathurst. Mucilago Amyli, or Wool is produced. Pop. 2800.

the founder of Mudie's Library in London, born at Chelsea. In 1842 he opened a circulating library in Southampton Row. Ten years later he moved into the present premises, the present headquarters of Mudic's Library, in New Oxford Street. was deeply religious, and a great philanthropist. M. published *Stray Leaves*, a collection of hymns, in 1872.

Mudki, a small tn. of the Punjab, India, 70 m. S.E. of Lahore, on the Rayi. Here the first battle in the Ravi. Here the first battle in one Sikh War was fought (1845), when the British, under Sir Hugh Gough, repulsed the Sikhs. Pop. 3000.

Mud Volcanoes are of two kinds: (1) Where the source of movement is the escape of gases: (2) where the active agent is steam. The former are conical hills formed by the accumulation of fine saline mud which is given out with various gases (marsh-gas, carbon dioxide, etc.) from an orifice or crater in the centre. The latter occur in volcanic regions, and are due to the escape of water and steam through beds of friable rock.

Muezzin, or Mueddin, a Mohammedan official whose duty it is to announce the hours of prayer to the This he does from minaret or side of the mosque in a nasal chant. His call is as follows:

'Allah is great [three times]. I testify that there is no God but Allah [twice]. I testify that Mohammed is the apostle of Allah [twice]. Come to prayer [twice]. Come to the best of works [twice]. Come to the best of twice]. There is no God but Allah.

Muffle, an arched vessel, used in metallurgy, which is constructed to be placed over cupels and tests in the operation of assaying. It preserves them from contact with ashes, smoke, etc., but does not hinder the action of the fire on the metal nor prevent inspection. For the furnace for firing porcelain, etc., called a M. furnace, see FURNACES.

Mufti (Arabic, expounder of the law). The Turkish Grand M. is the supreme head of the Ulemas (servants) of religion and laws), and with the of reigion and laws, and with the Grand Vizir has the supreme guidance of the state. The Turkish laws being based on the Koran, the M., as head of the judges, is the chief spiritual authority, and is therefore sometimes known as Sheikh-al-Islam (Lord of the Faith).

Mügeln: 1. A vil. of Saxony, Germany, 19 m. from Melssen. Pop. 7072. 2 A tn. of Saxony, Germany, 30 m. from Leipzig. Pop. 3000.

Muggia, a scaport of Istria, Austria, on the Gulf of Trieste, 4 m. S.W. of Trieste, with a fine harbour for warships. Pop. 11,481.

Mudie, Charles Edward (1818-90), originating in 1651, and founded by John Reeve and Ludovic Muggleton (1607-97), both of whom claimed the possession of the spirit of prophecy. Muggleton, who was a journeyman tailor, professed to be the 'mouth' of Reeve as Aaron was of Moses. They further claimed to be the two witnesses of Rev. xi. and to be empowered to curse their opponents. Their publications included a Remonstrance from the Elernal God, which was addressed to Cromwell. For this among other pagents they For this, among other reasons, they were imprisoned as public nuisances and frequently for blasphemy.

Mughla, or Mugla, a tn. of Smyrna vilayet, Asiatic Turkey, 54 m. from Rhodes. Pop. 15,000.

Mugia, a com. of Corunna prov., Spain, on the W. estuary of Cama-rinas R. Pop. 6400.

Mugwort, or Arlemisia vulgaris, a tall bushy plant (order Composita) with pinnatifid leaves, green above, and white and woolly beneath, and red and brownish-yellow flower heads. Unlike wormwood (A. absinthium) M. is odourless, but it was formerly infused to make a remedy rheumatism.

Mugwump, originally an American political slang word applied, in 1889, to those of the Republicans who would not vote for the candidature of J. G. Blaine for the presidency. It was used in Massachusetts of those who considered themselves great and independent and above mere party politics. It now signifies an independent voter, or one who will not attach himself to any party, or who refuses to vote.

Muhalitch, or Mikhalitch, a tn. of Khodavendikiar vilayet, Aslatic Tur-key, 36 m. W. of Brusa. Pop. 7000.

Mühlbach (Hungarian Szasz Sches). a tn. of Hermannstadt prov., Transylvania, Hungary, on the M. (Sebes). The dist. is rich in wine. Pop. 7800.

Mühlberg, a tn. in the prov. of Saxony, Prussia, on the Elbe, 35 m. N.W. of Dresden; was the scene of the defeat of the Protestant Elector of Saxony by the Emperor Charles V. in 1547. Pop. 3350.

Muhlenberg, John Peter Gabriel (1746-1807), an American preacher and soldier, bern in Trappe, Penn-sylvania. He entered the Lutheran sylvania. He entered the Lutheran ministry, but gave up his clerical career when the War of Independence broke out. He raised the 8th Virginia oroke out. He raised the still viginia regiment (German), saw a great deal of service, and became brigadier-general in the continental army, 1777. He became vice-president of the Supreme Council in 1789, and was elected as a Democratic-Re-publican to the United States Senate Muggletonians, an English sect in 1801, but resigned to become

supervisor of revenues for the district.

of Pennsylvania.

Mühlhausen, a tn. in the prov. of Saxony, Prussia, on the Unstrut, 30 m. N.W. of Erfurt. The church of St. Blasius dates from the 12th cen-There are manufs. of woollen and linen goods, carpets, leather, and cigars, and a flourishing trade in cattle, grain, and fruit. M. was a free city in the 14th century, and was the headquarters of Thomas Münzer in the Peasants' War (1525). Pop. 35,083

Mühlheim, a vil. of Hesse, Germany, 6 m. E. by N. of Frankfort-on-Main. Pop. 6032.

Mühlinghausen, a com. and vil. of Westphalia, Prussia, 7 m. E. of Elberfeld-Barmen. Pop. 6375. Muir, John (1810-82), a Scottish Orientalist, born in Glasgow. In

1829 he went to India, studied Sanskrit, and helped to further many skin, and helped to intuite many schemes to assist the Hindus. In 1844 he was appointed principal of Victoria College, Benares, and in 1845 civil and sessions judge of Fatchpur. In 1853 he retired, and returned to Edinburgh and endowed the charter Scarley in the Edin returned to Edinburgh and endowed the chair of Sanskrit in the Edinburgh University; he was the chief agent in founding the Shaw fellowship for moral philosophy. He was a D.C.L. of Oxford, a LL.D. of Edinburgh, a Ph.D. of Bonn, and a C.I.E.

Muir, Sir William (1819-1905), a Scottish Orientalist, brother of John M. He entered the Bengal Civil Service in 1837, was appointed secretary to the governor of the North-West Provinces, and was in charge of the intelligence depart-He was ment during the Mutiny. He was knighted in 1867, and in 1868 became lieutenant-governor of the North-West Provinces. In 1874 he was appointed financial minister He retired in 1876 and was India. elected a member of the Council of India in London. He was also elected principal of Edinburgh University. his influence the Muir College at Allahabad was built and endowed. He was a keen student of Arabic. He wrote: Life of Mahomet and History of Islam; Annals of the Early Caliphates; and The Koran: its Composition and Teaching, etc.

Muiravonside, a parish of Stirlingshire, Scotland, on R. Avon, 31 m. S.W. of Linlithgow. Pop. 5300.

Muirburn (Scotch muir, a heath), in Scots law, a term denoting the crime of setting fire to any heath or muir' from April 11 to Nov. Penalty, 40s. for first offence, £5 for second, and £10 for subsequent offences, or, in default, imprisonment for six weeks, two months, and three months respectively. An old (com.) 13.000.

Act of 1400 forbade the burning of a M. in any month except March. and its object was the preservation of game. To escape liability for M. the tenant of the particular muir must show that the fire was communicated from some adjacent ground, or at all events caused by some one not in his family or service. A proprietor of high and wet muirlands may, however, burn or authorise the burning of the heath between April 11 and 25, provided he is himself in occupation. Muir Glacier, a large ice-sheet of Alaska, N. America, with 350 sq. m. of surface area, discharging into Glacier Bay. The trunk is formed of about nine main streams of ice. Earthquake disturbances dislodged part of it (1899). Its most rasummer movement is about 7 Its most rapid 200,000,000 day, and some cubic ft. of ice are daily thrown off into the bay. Since 1794 it has receded about 25 m.

Muirkirk, a tn. of Ayrshire, Scotland, on R. Ayr. There are mines of

coal, limestone, and ironstone, and blast-furnaces. Pop. (1911) 4982. Muizenburg, a watering-place of Cape of Good Hope, S. Africa, on False Bay, 15 m. S.E. of Cape Town. Cecil Rhodes died there (1902). Pop. 3600.

Mukaddasi, the Jerusalemite(c. 947). an Arab traveller whose family name was Bashari. His best-known book is Description of the Lands of Islam. which is one of the most original and important Arabian geographical works of the middle ages. See The English translation (unfinished) by G. S. A. Ranking and R. F. Azoo, in Bibliotheca Indica (new series, 899, 952, 1000, etc).

Mukama, a tn. of Patna dist., Bengal, British India, 40 m. S.E. of Patna. Pop. about 13,000.

Mukden, or Moukden (Chinese Shényang), the cap. of Shing-king, the southern prov. of Manchuria, 110 m. N.E. of Niu-chwang, on a branch of the Siberian Railroad. It is regularly built, surrounded by a solid high really and divided into nine brick wall, and divided into nine parts. In the centre is the imperial palace (1631) and the administrative buildings. It is an important town on the trade routes between Manchuria The chief exports are and China. agricultural produce and furs, and it is now open to foreign commerce. It suffered from fire during the Boxer rising of 1900. It was the site of a Japanese victory over the Russians in March 1905. Pop. 180,000. See K. von Donat's The Battle of Mukden (Eng. translation), 1906. Mula, a tn. of Murcia, Spain. There

are warm mineral baths near. Pop.

Mulatto (Sp. and mulato, a diminutive of mulo; Lat. mulus, a mule), the offspring of a white person and a negro. The true white person and a negro. The true M. is characterised by woolly black hair, and flat features, and is more usually the child of a black mother and white father. The degrees of negro blood are indicated by quadroon, three-fourths white, and one-fourth black, and orderoon, seveneighths white, and one-eighth black, etc. But sneeds countries have different parts of the count etc. But special countries have different terms for Ms. In Latin America they are sometimes called mestiyos, and in Brazil a M. is a pardo.

Mulberry (Morus), a genus of fruit-bearing trees of which the best known is the Black M. (M. niger), a native of Persia, and introduced to Britain in the 16th century. It is hardy only in the S. of England, and elsewhere needs to have the shelter of a high sunny wall. The sub-acid characteristically flavoured fruit, though it resembles a blackberry or raspberry, is of quite different structure, corresponding rather to a bunch of currants. leaves are used as food for silkworms. but those of the White M. (M. alba) which is not so hardy, make the

finest silk.

Mulcaster, Richard (c. 1530-1611), an Inglish philologist, born at Carlisle. In 1561 he was appointed headmaster of the Merchant Taylors' School, and in 1596 became high master of St. Paul's School. He was a great disciplinarian, and insisted on physical training for children, and the higher education for girls. His best known works are Positions, and The first part of the Elementarie of the Right Writing of our English Tung, 1582, etc.

Mulch, a layer of material spread over the surface of the soil to prevent evaporation, to supply plant food or to exclude frost. Straw, cocoa-nut fibre, spent hops, grass, manure, ashes, or even dry soil in a powdery condition 3 or 4 in. deep, act as Ms.

Mulder, Gerard Johannes (1802-80), a Dutch chemist, born at Utrecht. He was professor at Amsterdam, and afterwards at Rotterdam, specialising in physiological chemistry and the composition of all the properties of the properties composition of albuminous bodies. Among his works are: The Chemistry of Wine, 1856; The Chemistry of Beer, 1856; The Chemistry of the Vegetable World, 1864, etc.

Mule, the name given to any hybrid. but commonly the offspring of the male ass and the marc. The produce of a stallion with a female ass is called a 'hinny,' and is smaller and weaker than the M., and therefore less valuable. Ms. have the general shape of principal are Loch-na-Keal and Loch the horse, and sometimes measure as Screidan. Area 351 sq. m. Its sur-

Portuguese, ass they get its obstinate disposition. the head features and the less sensitive, weather-proof coat. As a rule, they are extremely hardy and practi-cally free from disease. They are as sure-footed as a goat, and almost invariably possess great intelligence. They are bred in large numbers for use in countries where roads are bad, and extremes of weather have to be survived. They are useful as pack animals.

Mulgrave Islands, the collective name of various small groups of coral islands in the Pacific Ocean, scattered between 30° S. and 12° N., and 160° and 177° E.

Mulhall, Michael George (1836-1900), a British statistician, born in Dublin. He went to S. America, and in 1861 started the first S. American in 1861 started the first S. American English daily paper, called the Buenos Ayres Standard. His chief works were: Handbook of the River Plate, 1869; The Progress of the World in the 19th Century, 1880; and Fifty Fears of National Progress, 1887.

Mülhausen, a city of Alsace-Lorraine, Germany, on the Ill and the Rhine-Rhône Canal, 67 m. S.S.W. of Strassburg by rail. It is divided into the old town dating from the 1860.

the old town, dating from the 16th century, the new town, built in the 19th century, and containing the workmen's colony founded by Mayor Dollfus in 1853. It is the most important centre of the textile industry

in the empire; other manufs, are machinery and chemicals. M. became German in 1871. Pop. 94,967.
Mülheim: 1. Am-Rhein, a tn. in the Rhine prov., Prussia, on the Rhine, nearly opposite Cologne. It has breweries, tanneries, and dye-works, and manufs. of silks, velvets, chemicals, machinery, and carriages. Pop. 53,355. 2. Am-Ruhr. a tn. in the 53,355. 2. Am-Ruhr, a tn. in the Rhine prov., Prussia, on the Ruhr, 16 m. N. of Düsseldorf. Coal and iron are mined in the dist., and there are

manufs of machinery, textiles, leather, and glass. Pop. 112,362.

Mulinari, or Molinari Stefano (c. 1741-96), Italian engraver, born in Florence. Little is known of his life, but his reputation rests on his numerous prints of early Italian masters, from Cimalne to Francesco Rustici, which he published in two volumes under the titles Isotria practica dell' Incominciamento e Progressi della Pittura, 1775; and Saggio delle cinque

Scuole di Pittura Italiana, 1780.

Mull, after the Isle of Skye, the largest of the Inner Hebrides, Argylishire; is washed on the W. and S. by the Atlantic. Its coast is indented by numerous sea lochs, of which the principal are Loch-na-Keal and Loch much as 16 hands high, but from the face is mountainous, rising in Ben

mory. Pop. (1911) 4711.

Mullah, or Mollah, the name given in Mohammedan countries to an official exercising the function of judge and expositor of the religious law, and to certain other members of the clergy.

Müllenhoff, Karl Viktor (1818-84), a German philologist, born at Marne (Holstein). He held the appointments of professor at the University of Kiel, as well as the chair of German language and literature at Berlin. He wrote various books on philology and German antiquities, his masterpiece being Deutsche Altertumskunde, 1870. Other works are Allgemsine Monatsschrift für Wissenschaft und Literatur 1850; Altdeutsche Sprachproben, 1864; Sagen, Marchen und Lieder der Herzogthümer Holstein und Lauen-

burg, 1845.

Müller, Sir Ferdinand von (1825-96), in Rostock. In 1846-47 he studied at Kiel University, also botanising in Schleswig and Holstein, and then emigrated to Australia through illhealth. From 1848-52 he travelled some 4000 m. botanising, and in 1852 was appointed chief botanist to Victoria, then from 1855-56 he was botanist in A. C. Gregory's scientific expedition in N. and Central Aus-When back again he was irrector of the botanical tralia. made director of gardens in Melbourne. He intro-duced and exchanged plants with countries all over the world, and he will be chiefly remembered in introducing the eucalyptus tree into different countries, especially Algeria; he also raised the famous Victoria Regia water-lily. M. wrote valuable works on the eucalyptus, various botanical subjectgraphic Flora

and Pl Müller, George (1805-98), a preacher and philanthropist, born near Halberstadt in Germany. He came to London in 1828 and spent the London in 1828 and spent greater part of his life in England. He became minister of a church in Teignmouth, Devonshire, where he remained for two years and then Always devoted to went to Bristol. children, he started taking in orphans to look after and care for. Gradually the numbers of these children increased, and he took houses for them, until at last he had established an immense orphanage for 2000 children, occupying five houses which he built for the purpose at Ashley Down just outside Bristol, and supported by voluntary contributions. He müller, Julius (1801-78), a Gerpublished a book containing his views, entitled *The Lord's Dealings* Brieg. He was appointed professor

More to 3185 ft. Chief town Tober- with George Müller, which had an immense circulation, and much sympathy with his scheme. When past seventy he went on a preaching tour through Europe, America, Australia, and China, and was absent for nearly seventeen years. He died at Bristol. See A. T. Pierson, George Muller of Bristol, 1899.

> Müller, Johann (1801-58), an eminent physiologist, born at Coblenz. He began to study with a view to orders in the Roman Catholic Church; but in 1819 he abandoned his theological studies, and devoted himself to medicine, taking, in 1822, the degree of Doctor of Medicine at Bonn. Whilst yet a student, he wrote for a prize the treatise De Respiratione Fœtus (1823). He became in 1826 an extraordinary, and in 1830 an ordinary, professor of physiology and anatomy at Bonn; and in 1833 succeeded Rudolphi as professor of anatomy at Berlin. His physiological researches were rewarded by many discoveries. His works are occupied with zoology and comparative anatomy. His investigations on infusoria were published in 1860.

Müller, Johannes von (1752-1809). a Swiss historian, born at Neunkirch, near Schafthausen. In 1772 he became professor of Greek at the Collegium Humanitatis at Schaffhausen. During 1778-79 he delivered a set of lectures on history which were published many years later under the title Vierundzwanzig Bücher Allgemeiner Geschichte (1839). In 1780 he published the first volume of his Geschichten der Schweizer, and the following year his Essais historiques appeared. The same year he was made professor of history by the landgrave of Hesse Cassel, and in 1782 he published Reisen der Päpste. In 1783 he returned to Geneva, and in 1786 became librarian to the elector-archbishop of Mainz. In June 1786 the first volume of his Swiss history appeared, a second volume appearing two years later, and in 1787 he published a political tract Zur Darstellung des Fürstenbundes. In 1793 he became an imperial aulic councillor, and while at vienna issued the third volume of his history (1795), a fourth volume following in 1805. In 1806 he espoused the cause of Napoleon, and the latter made him Secretary of State for Westphalia, and later a privy councillor and director of public instruction. The fifth volume of his history appeared in 1808. See biographies by Hecren (1809), Doring (1835), and Monnard (1839).

Müller, Julius (1801-78), a German Protestant theologian, born at

und christliches Leben (1850-61). In 1833 he published Uber den Gegensatz des Prolestantismus und des Catholicismus, which called forth a reply from Baur, whose criticism he was opposed to. At the General Evangelical Synod at Berlin (1840), he supported the Consensus-Union, and his pamphlets, Die erste Generalsunode der evang. Landeskirche Preussens (1847) and Die evangelische Union, ihr Wesen und Gouttenes Recht (1854), were written in defence ihr Wesen und Göttliches of his attitude. His principal work was Die christliche Lehre der Sunde (2 vols., 1839 · 5th ed., 1867), in which he putforward the theory that original sin was the result of the pre-existence of souls.

Müller, Karl Otfried (1797-1840), born in Silesia, he studied at Breslau and Berlin. He published Acgineti-corum Liber (1817), after which he soon received an appointment to the Magdalenum in Breslau, where his leisure hours were devoted to a grand attempt to analyse the whole circle of Greek myths. In 1819 he obtained an archeological chair in Göttingen. His great design was to embrace the whole life of ancient Greece, its art, politics, industry, religion, in one warm and vivid conception. With warm and vivid conception. this view he lectured and wrote until the political troubles in Hanover made his position uncomfortable. He obtained permission to travel, and made tours in Greece and Italy, but died of an intermittent fever at Athens. We are indebted to him for many striking elucidations of the geography and topography, literature, grammar, mythology, manners, and customs of the ancients. His works

Prolegomenen zu einer wissenschaft-lichen Mythologie, 1825; History of the Literature of Ancient Greece (trans. by Sir George Cornwall Lewis and Dr.

Donaldson), London, 1840.
Müller, Wilhelm (1791-1827), a
German lyrio poet, born at Dessau.
In 1817 he went to Italy, and his first published work was Rom, Römer und Romerinnen (1820), which Gedichte den aus

ordinarius of theology at Halle (1839). Papieren eines reisenden Waldhornis-He was one of the founders of the ten (2 vols., 1821-24) and Lieder der Griechen (1821-24), the latter sympathising with the Greeks in their struggle with the Turks. His earliest lyrics will be found in a volume of poems entitled Bundesblüten (1816), containing work by several authors. Containing work by several authors. His other works are: Neugricchische Volkslieder (2 vols.), 1825; Lyrische Reisen und epigrammatische Spaziergange, 1827; and Homerische Forschule, 1824. He also translated Martine Libert auch 1824. lowe's Faustus, and edited Bibliothck der Dichtungen des 17 Jahrhunderts (10 vols.), 1822-27. Many of his poems were set to music by Schubert, and have become extremely popular. See edition of his Gedichte, ed. by his

son, F. Max-Müller, 1868. Mullet, a term for two distinct fish types: (1) The grey M. (Mullus) comprises about seventy species, of which three are found off the British coast. They are valued as food, especially when taken from fresh water, and they are cultivated in mullet ponds in Italy and also in Honolulu (see Mughinæ). (2) The red Ms. (Mullidæ) comprise about forty species, many of which are tropical. The common red M. (Mullus barbatus) has been famed since classical times for its delicately flavoured flesh. Its average length is about 15 in., and weight 21 lbs. Its skin is a brilliant red. Red Ms. have a pair of erectile barbels which forwards when

the sea bottom grooves at other times.

Mullingar, a market tn. of Ireland, cap. of the co. of Westmeath, is situated on the Brosna, 48 m. W. by N. of Dublin. It has a Roman Tanning and Catholic cathedral. brewing are carried on. There are four annual cattle and horse fairs. Pop. (1911) 4500.

Mullion, a term in Gothic architec-ture applied to the upright bars, or rather stone shafts, dividing the general aperture of a window into secondary openings, which are again frequently subdivided vertically by a similar shaft crossing the Ms. horizontally, and therefore called a 'transom.' transom.

Mulready, William (1786-1863), an Irish genre painter, born at Ennis, in co. Clare. His father removed to London soon after William was born, and here William had the help of Banks, the sculptor. In 1800 he wa-admitted as a student of the Royal Academy, and in 1815 an associate. gave his impressions of his visits. His pictures are noted for their rich of the ducal library. His best work details, and the most important are is contained in the volumes entitled in the S. Kensington Museum and Cadlente are also being leaven the Notice and Callente (1998). hinterlassenen the National Gallery, London, Co.

Multan, or Mooltan, an ancient and important city of India in the Pun-jab, on a mound consisting of the ruins of ancient cities that occupied the same site, 3 m. from the l. b. of the Chenab—the inundations of which sometimes reach M. - and 200 m. S.W. of Lahore. Pop. 90,000.

Multiplepoinding, in Scots law, denotes an action (apparently first mentioned in an Act of Sederunt, 1677, as the proper process for settling the preferences of different arresters (see ARRESTMENT) whereby any number of different claimants to the same money, effects, or property, can obtain the decision of the court on the question of which is entitled, or, if more than one, in what proportions they are entitled. In all cases the they are entitled. In all cases the holder of the fund is nominally the pursuer (plaintiff), but, as a fact, any claimant may raise the action. The action may be brought whenever double diligence (q.v.) has been either done or threatened, or wherever there are double claims on one fund, founded on separate and grounds. It was once consider

heritable property could not subject of M., but recent decisions are radius of relative orbit, 6,055,000 against that view. The subject m. (Pickering, 1896). Triple and matter, however, is generally a sum multiple stars.—In the case of of money, and must be such as the holder may be obliged to pay; hence rents to become due cannot be the subject of M. Usually M. is only competent where conflicting claims have been made, or where conflicting interests exist which may mature into claims. The one exception is in favour of trustees, or judicial factors, who are allowed to obtain judicial exoneration and adjustment of the rights of parties by this process. All persons interested in the subject-matter of the action may appear and produce their claims whether they are cited to appear or not. See Bell's Comment; Green's Encyclopædia of Scots Law.

Multiple Proportions, see CHEMISTRY. Multiple Stars. Sir Wm. Herschell discovered that many stars were double, and in 1872 presented a catalogue of 269 such stars to the Royal Society. The number has since increased to over 100,000. A considerable number of stars have been found to be triple, quadruple, etc., in to the triple, quantuple, country to clusters of vast number. The term 'multiple' includes all those above double or 'binary.' These stars are double, triple, multiple, in a physical sense, being actually in close relation, not 'optical' in the country the country that the country is the country to the country that the country is the country in the country in the country in the country is the country in the country in the country in the country is the country in the co close relation, not 'optical' in appearing close because in nearly the same line. To distinguish the difference, prolonged observation is neces-sary, and many cases are yet un-

'Choosing the Wedding Gown ' and differentiated. Physically, close stars 'Crossing the Ford.' tion, while the proper notions of optically close stars show a rectilinear relative motion. In all cases the stars are observed telescopically with the filar position-micrometer to determine distance (seconds of arc between centres) and position-angle (angle made by distance line with the hour circle). Photography is also used for distances above 4 secs. Binary stars, at present 250 at least have been determined, with distances between components from 30 sec. to 1 sec. In about one-third of the cases the components are nearly equal; where unequal the larger is reddish or yellowish, the smaller green or blue, e.g. y Andromedac and & Cygni. In many cases only the relative orbit has been determined, in others the actual orbits, which are all of large eccentricity. The periods vary from five and a half to several hundred years. Spectroscopic binaries.—These are not resolvable by the telescope, but their spectra occasionally show double dark lines (see Mizar and An example is μ 34 hrs. 42.5 mins.;

> multiple stars.—In the case of Cancri, two large stars revolve in an orbit less than 2 sec. diameter, period about sixty years; the third, smaller, more distant, orbit not determined, period several hundred Capital has exyears probably. Seeliger has explained a perturbation as due to the existence of an invisible star. Lyræ has two pairs, each making a very slow revolution; the pairs have a common proper motion and are probably revolving round a common centre of gravity in a period to be reckoned in millenniums. v Scorpii and 86 Virginis are quadruple; θ Orionis sextuple; σ Orionis is double quadruple, and 45 Leporis shows five principal and four subor-

> dinate stars. Many star clusters have been shown to be physically con-nected and thus to form bigger systems of M. S. In fact, the spectroscope has enormously increased the range of our knowledge of the stars, and astronomical physics has claimed a much greater share of astronomy

rkers, among Belopotsky, e mentioned. sult of this

of large has num ead, stars, which may finally be found to be as numerous as the visible ones. Flammarion, Double Stars; Gledhill, Handbook of Double Stars; Houzeau,

Not 1

Wallace, Man's Place in the Universe. Mum, an old German beverage, and

still much used in Germany. It is a fermented malt liquor decocted in two or three strengths. It is dark coloured and sweet, its peculiar flavour being due to the addition of oat and pulse

Lucius, Mummius, surnamed Roman general, was consul in 146 B.C., and after the conquest of Diæus in the Achæan war quest of Dieses in the Achiean war captured Corinth. All the inhabitants were slain, the artistic treasures sent to Rome, and the city burnt. It is probable that these cruel proceedings, which were foreign to M.'s nature, were carried out by order of the Senate. He was censor in 142 with Scipio Africanus the Younger.

Mumps, an infectious disease characterised by inflammation of the accerised by innamination of the parotid glands, and at times of the other salivary glands. Other names for the disease are parotitis, eynanche parotidaa, and, in Scotland, the branks. After a period of incubation of from two to three weeks, the disease shows itself by a swelling in the region of the parotid gland, which is situated in front of and below the external ear. There is also usually some degree of catarrh, with slight febrile symptoms, but these are seldom

Mummy, see Embalming.

pronounced enough to occasion discomfort. As the disease proceeds, the swelling becomes increased in size and spreads downwards to the neck and round the angle of the jaw, causing comparatively little pain but considerable disfigurement. The patient is otherwise quite well, except for some amount of discomfort attached to the actions of masticating and swallowing. It takes about four or five days for the swelling to reach its height, after which it gradually abates to a normal condition. Suppuration of the gland is a very uncommon occurrence. The disease does not call for much treatment. The diet should be that proper to a febrile condition,

and the food should be soft enough to avoid painful mastication. The disease is highly infectious, and sometimes spreads with great rapidity ime.

n is

Mun, Adrien Albert Marie, Comte 6580. de (b. 1841), a French politician, born Mü

Vade Mecum. Also for a popular but at Lumigny, entered the army and very hypothetical outcome, A.R. fought in the Algerian and Franco-Wallace, Man's Place in the Universe. German wars. He was elected to the Chamber of Deputies in 1876, and has sat since that date, with the exception of 1879-81, and 1892-4, as a strong royalist and clerical. His adoption of Christian socialist views led to the establishment of the Cercles Catholiques d'Ouvriers. He brought the monarchist party to support the pretensions of General Boulanger, and in 1892 he modified Cercles Catholiques d'Ouvriers. his violent anti-republicanism in obedience to the encyclical of Leo obedience to the encyclical of lico XIII., forming the new political group, les Rallier, those who rallied to the Republic. He was elected to the Academy in 1897, in succession to the Simon See Ma Vocation to Jules Simon. See Ma Vocation Sociale, 1908, Mun, Thomas (1751-1641), an Eng-

lish writer on political economy. He was a member of the committee of the East India Company. In 1621 he wrote and published A Discourse of Trade from England unto the East Indies; and in 1630 produced England's Treasure by Forraign Trade; this latter was published by his son, John Mun.

John Mun. Munch, Andreas (1811-84), a Norwegian poet and dramatist, born in Christiania. He originally studied law, but gave this up, and from 1841-46 was editor of the Conservative journal, Den Constitutionelle. He was appointed amanuensis at the University Library in 1850, and in 1866 was made professor in the University. His greatest work was his epic entitled Kongedatterens Brudefort (The Bridal Journey of the King's Daughter), 1861, but he also won great popularity by the publication of his Poems Old and New in 1848. He also wrote other works, and trans-

lated into Norwegian many works of Scott and Tennyson. Munch, Peter Androws (1810-63), a Norwegian historian, born in Christiania. In 1811 he was appointed professor of history at the University of Christiania, and in 1861 became keeper of the Record Office. He published many works of a linguistic character, and among them a Gram-mar of Old Norse in 1817, and also translated several of the Old Norse sagas. His History and Description of Norway during the Middle Ages, 1819, is one of the best books on the history ther eted, nles, sted, of that time, but his chef d'aurre is ales, his History of the Norwegian People ales, (8 vols.) 1852-63.

Münchberg, a tn. in Upper Franusuany on, the distribution of when the parotids take on their nitz, 20 m. N.N.E. of Bayreuth normal size and appearance.

There are manufaction in Morphe Print assets conia, Bayaria, Prussia, on the Pulstonian in the parotids take on their nitz, 20 m. N.N.E. of Bayreuth.

Münchhausen. Karl Friedrich Hier-

onymus, Baron (1720-97), famous for Factory Acts of 1875, and later. He narrating marvellous stories. He organised the 'labour department' served in the Russian army against at the Board of Trade, and modified the Turks, and on his retiring to his estate of Bodenwerder, amused and astounded his friends and relations by the extraordinary tales of his adventures during the war. A man named Rudolf Erich Raspe collected these tales and, adding many incidents from other sources, published a book in 1785 called Baron Münchausen's narrative of his marvellous Travels and Campaigns in Russia. It was published anonymously with a preface by Bürger, who was at first believed to be the author; a second edition was printed in 1786, and two other editions rapidly followed. Cruikshank illustrated one edition (1869), and Gustave Doré (1862) another. The book has been enlarged by the insertion of stories culled from See Lawrence and various sources.

Bullen's edition (1895).

Muncie, the cap. of Delaware co.,
Indiana, U.S.A., 54 m. N.E. of
Indianapolis, on the White R. Iron, steel, and glass goods are manufac-tured. Palmer University is here.

Pop. (1910) 24,005.

Munday, Anthony (1553-1633), an English dramatist and miscellaneous writer, born in London. He went to Rome (1578), probably as a spy to report on the English Jesuit College On his return to England in Rome. (1579) he became an actor, and later a member of the Earl of Oxford's company. He wrote anti-Catholic pamphlets and translated romances. In 1605 he was appointed chief pageant writer for the city, and by these entertainments he won There are eighteen greatest fame. plays ascribed to M., among them The Downfall of Robert Earl of Huntingdon, and the second play on the Death of Robert of Huntingdon, etc. He wrote several lyrics, some under the name of 'Shepherd Tony,' to England's Helicon (1600). He also wrote under the title of Lazarus Piot. Ben Jonson nick-named him the ' pageant poet.

Mundella, Anthony John (1825-97), English politician, born Leicester. He was an advanced Radical in politics, and was elected for Sheffield in 1868 for a division of which, Brightside, he continued to sit till his death. In Gladstone's In Gladstone's ministries he was successively vice-president of the council, and presi-

to his connection wi company. His polit resulted in much use etc., especially in the of 1870, and the code the common law of conspiracy as

affecting trade unions.

Münden, a tn. in the prov. of Hanover, Prussia, at the confluence of the Fulda and the Werra, 15 m. W.S.W. of Göttingen. It has manufs. of confectionery, chemicals, cigars. There are quarries and coal mines in the district. Pop. 11,455.

Munden, Joseph Shepherd (1758-32), an English actor, born in 1832), an London. After playing in strolling companies, he made his mark at Canterbury under Hurst. In 1790 he came to London where, until about 1811, he was the leading comedian. He was remarkable for the variety of characters he represented: he had a great gift of facial expression, which sometimes degenerated into

grimacing.

Mundrucus, or Mundurucus, a powerful tribe of Brazilian Indians, S. of the Amazon, on the R. Tapajos, generally classified with the Tupi stock. Physically and morally they are one of the finest of S. American races, and subsist mainly by agriculture. They are, however, bold warriors, and were long enemies of the Muras (a neighbouring tribe) and of the whites, but they are now partly civilised, and are much em-ployed as rubber-gatherers, whereas they are faithful friends of the Muras, having made a peace with them in

Munich (Ger. München), the cap, of Bavaria, is situated in the midst of a barren and flat elevated plain at a height of about 1700 ft. above the level of the sea. It is also the principal city of the province of Upper Bavaria and lies on the l. b. of the Iser. Its cathedral, which is the see for the archbishopric of Munich-Freising, was built between 1468-94, and is remarkable for its two square towers, with their octagonal upper stories, capped by cupolas, and its thirty lofty and highly decorated windows. Among the notable buildings are the royal residence, the Pina-Kothek, the Glyplothek, the National Theatre, the National Museum, and the Courts of Justice. Its public 1,300,000 library contains over volumes, and is rich in art collections. M. is noted for its enormous breweries of Bavarian beer, and has some good manufactories for cotton, wool, and dent of the Board of Trade in 1886 damask goods, jewellery, silver and 1892. He resigned in 1894, owing articles, mathematical instruments, leather

goods, per - hangings, carriages, ld, silver, and steel wares, ography is extensively en-The present name of this

city cannot be traced further than which gave them both the wealth and the 12th century, when Henry the the local organisation essential to the Lion raised the Villa Munichen from conduct of corporate affairs. M., not its previous obscurity, by establishing a mint within its precincts, and making it the chief emporium for the salt which was obtained from Halle and the neighbouring districts. In the 13th century, the dukes of the Wittelsbach dynasty selected M. for their residence, built the Ludwigs-burg, some parts of whose original structure still exist, and surrounded town with walls and other fortified defences. In 1327 the old town was nearly destroyed by fire, and rebuilt by the Emperor Ludwig of Bavaria very much on the plan which it still exhibits, but it was not the close of the 18th century, when the fortifications were razed to the ground, that the limits of the town were enlarged to any extent. The city capitulated to Gustavus Adolphus in 1632, and in 1742 it fell into the hands of the Austrians. King Maximilian II. (1848-64) did much to further the arts and sciences by founding the National Museum.

Municipal Corporations, sec LOCAL

GOVERNMENTS. Municipalities (derived from Lat. municipium), a term which came subsequently to denote the duties (munus, duty or privilege) undertaken, and the privileges accepted, by the various Italian towns and other communications in the subsequently of the communication of the commu other communities which stood in dependence on the city of Rome. Later the term municipia was applied to all urban communities of Roman citizens in Italy with a definite organisation and a more or less complete system of self-government. The term municipality thus became the appropriate generic name both for cities or towns which enjoyed a measure of local autonomy, and for the conventional governing body of such cities or towns. In England the most ancient Ms. are those boroughs which can show an unbroken history back to the middle ages or earlier, when, in consideration of certain payments (like the firma burgi) they received royal charters of self-taxation and self-government. Other and later municipal corporations include principally large manufacturing towns which have acquired the status of county or non-county boroughs by charter or private Act of Parliament. (See Borough, Bur-GESS, CORPORATION, LOCAL GOVERN-MENT.) In most cases of ancient of mayor, aldermen, and burgesses, and cour or at least the common council, arose system.

conduct of corporate affairs. M., not dissimilar in some of the essentials of English municipal corporations, exist in many countries; but those in the U.S.A. differ in one important respect in that the various grades of members of the commonalty form distinct chambers under a bicameral system which reveals, as it were, the microcosm of a national or state legisla-ture. Mr. Sidney Webb (English Local Government) thinks that the elements of such a dualism appeared in the two classes (aldermen and common councillors) constituting the constituting the close corporations, but that in one case only, that of the ancient city of Norwich (and less completely at Ipswich and the city of London) did there exist a genuine bicameral conditions with a bree clearer length of the condition with a bree clearer length of the condition with a bree clearer length of the condition with a bree clearer length. stitution with a broad electoral base. Apparently the constitution failed so completely that the Municipal Re-formers of 1835, in reconstructing English municipal government, were justified in ignoring such democratic mode of local government altogether. (For present constitutions of all municipal corporations see Borough.) In Germany town-constitutions vary In Prussia the very considerably. In Prussia the executive council (magistrat) of a municipal commune is elected by the representative assembly of the citizens out of their own body; but in other parts of Germany, such as Alsace-Lorraine, which are influenced by French ideas, the executive is elected by the entire body of municipal electors. The monopoly of local government usurped by the mediæval communes of classes and guilds was broken by the reforms at the be-ginning of the 19th century, which vested in the citizens as a whole local administrative powers under municipal codes. History shows that the M., commune, or other urban corporate arrogated to itself such formidable

entity endowed with local autonomous privileges, has at various times political ascendancy as almost to render itself practically independent. N. Italy, at the time of the Lombard kings, and long before the hegemony of the last century, was essentially a region of independent city republics, each with an organisation not markedly dissimilar to that of the citystate of ancient Greece, and owing its boroughs, history justifies the assumption that the municipal corporation tunities for the local tyranny of dukes of mayor, aldermen, and burgesses, and counts afforded by the feudal This aristocratic or caste out of the Merchant and Craft Guilds, tyranny was only undermined by for these latter possessed a common the rival spiritual power set up stock and corporate trading ventures under the ægis of the Christian em-

pire by the grant of Episcopal immunities, with the result that their Italian city republics presented this curious and political phenomenon of a dual system of control, the religious and democratic acting as a counterpoise to the temporal and ducal. Much by the same process of evolution rose and waned the free towns of Germany (see FREE IMPERIAL CITIES) and the cities of the Swiss cantons. The English boroughs or chartered towns had a different history. As the natural centres of trade they were early in a position to exact from necessitous overlords or needy monarchs, fiscal and judicial im-munities which soon enabled them to develop themselves into compact strongholds, with resources that in times of civil war or social upheaval were enough of themselves to decide the fate of contending factions in the state. But except in the Stuart period those resources were seldom employed against the king, for it has been England's peculiar fortune that with rare exceptions the king and the people have always stood together against the nobility. In medieval and modern times the English Ms. have been almost a mismogen of the been almost a microcosm of the central government, if we force the analogy of the bicameral system by substituting the corporate governing body for the upper house and the burgesses for the lower. Where the central government has been absolute or autocratic, the M. has exhibited the close corporation of the guild wielding its powers for the personal benefit of its privileged members; and where the central authority has become constitutional and representative, the M. has followed suit by becoming a democratic body which, in recent years, has more and more through the action of municipal socialism, reflected the tendencies of the present government (1913). The municipal corporation of England, as we know it to-day, has acquired by legislation and custom such wide powers of self-government as to lead many writers on constitutional law and politics to assert that their powers are exercised with practically no interference from the central government. This view, however, hardly seems justified by facts (see LOCAL GOVERNMENT as to the relations between the central government and local authorities). Comprehensive as local autonomy may be in England, it is a latitude within a strictly circumsoribed area, and since the days neither an old nor a new activity in when the central government of England became firmly fixed on a definite present form and administration it constitutional and democratic basis, may find no genuine parallel in the the checks which political scientists ancient or mediaval communal life

preservation of the central control have, if not actively exercised at some periods, at least been latent—a fact which is borne out by the extraordinary degree of state control manifested in the legislation of the last six or seven years.

Municipal Trade. The steady growth of M. T. in England is not only the most remarkable aspect of modern municipal activity, but would seem by its silent progression to have drawn people of all shades of political opinion into the stream of its development before public opinion as a whole was truly conscious of its real political significance. The result of the sudden realisation during the first decade of the present century of the huge increase in the aggregate expenditure of the various local authorities has been the formation of various societies, like the London Municipal societies, like the London Municipal Society, and the publication of a respectable amount of literature, the objects and purport of which are, respectively, to proselytise people to the old ways of individualism by a direct appeal to their anti-socialistic sympathies. The rise of the Labour Party in parliament in 1906, and in particular the return to the House of Commons from time to time of members of avowedly Socialist opinion, have made the issue of socialism within the last few years the most bitterly controversial topic in England of modern times, and both sides have focussed their attention on the results of M. T. as affording irresistible arguments in favour of their respective political creeds—the anti-Socialists stigmatising it with the name of municipal socialism, pointing with alarm to Mr. Sidney Webb's manifesto that 'the path to the Town Utopia of Collectivism is unlimited municipalisation of local mubic municipalisation of local public services, and a wide extension of cooperate activity,' and lamenting the alleged portentous increase of rates and municipal debt; the socialist schools of thought acclaiming it as a subsidiary part or antecedent slope towards the full realisation of their dreams of state industrial organisa-tion, and combating the figures of their opponents by reference to the enormous increase in population and rateable value of property.

A short survey of the history of M. T. shows that it is not the product of modern conditions so much as the legitimate consequence of a process of evolution. Municipal trading is neither an old nor a new activity in social conditions, though in its present form and administration it have always formulated for the of the English burgesses. So far as

there is any conscious intellectual authority 'as the march of politics operation involved in its promotion as distinct from the unsystematic extension of municipal operations arising out of, and rendered necessary by, the ever-widening range of duties imposed by the legislature on local governing bodies in relation to public health, the maintenance of highways and the relief of paupers, it may be taken to be the expression of the growing belief that it is incumbent on the social or civic conscience to supply the obvious omissions of individual enterprise. It seems unduly alarmist and unwarranted by historical fact to assert that municipal trading is part of a vast and con-scious political move. It is far more in accordance with the haphazard methods of English legislators to proceed as convenience seems to dictate without the slightest reference to ultimate ideals. If the M. T. is a per-manent feature in English social life, it is probably because public opinion on the whole is in favour of it, and if that is so nothing can stem the tide of its logical development, and it further seems to be the mere expression of prejudice to say that the citadel of local government has been stealthily captured by the administrative Socialist for the insidious propagation, under the cloak of Progressivism, of his creed.

In the early days of the English people, markets with their tolls and dues were the oldest form of local service and municipal trading. But whereas now the profits of any branch of M. T. would either go to the relief of rates or some other public or corporate purpose, this market revenue, where it did not become part of the corporate property of the borough, was appropriated by the king in consideration of the grant of a monopoly of trading to particular individuals in pursuance of the ancient royal prerogative of regulating all matters of trade. Ancient local governing bodies also had certain functions relative to the provision of piers and harbours and docks, and one highly socialistic function was performed both by municipal bodies or by the state, namely the supervision of the food supply, the regulation of the and

e in the avowed interests of the people at large, fixed the prices of bread, ale, fuel, and other necessaries. It is considered by Mr. Towler, in his Socialism in Local Government, that these instances of communal action were not a supersession of existing private somewhat anomalous position now is effort, nor of competitive trading, but that though it has long been permerely works set up by the local feetly lawful for a municipality to

esizo

unfolded and when individual energy was not forthcoming to provide for the essential needs of the community; and, further, that the food supply ceased to be a matter of local concern when better means of inter-com-munication between town and villages were established and trade extended generally. This, however, seems a better alternative to collective action, or to involve a contradiction, for either there was individual trading or there was not; if not, what need for regulations like those of the Assize of Bread and Ale unless they were aimed at the municipality; and if there was, then no argument can be drawn from the supposed lack of individual provide energy to If. as seems proessential needs. bable, from the language of these old statutes, the action of the legislature was a veto on the rapacity of mer-chants and traders, then there is no reason why the state should not, if economically feasible, revert to such methods of regulation; or, again, if the state already prescribes a mini-mum wage for certain trades, as it does, then why not a maximum price for the necessaries of life? During the period of the merchant and craft guilds, local administration exercised vigorous control over industry, generally with the object of deriving from merchants a profit for the par-ticular town. But there was no municipal trading proper. At the municipal trading proper. At the beginning of the 17th century a number of municipal corporations owned markets, docks, quays, piers. slaughter-houses, and a water-supply but with the rise of the industrial system and the corresponding decline in agriculture, unregulated competition and the expansion of individual commercial enterprise swept collectivism in all shapes and forms for a time from the field. It was an age when publicists urged the limitation of governmental functions to the maintenance of order within the state and the protection of the state from external aggression, and it is comparatively cently that the of the Fabian awakened the cynical results of that unfettered individualism in industrial enterprise that looked to no end other than that of profit. Since this awakening there has been a complete rolle-face from the legal prohibition in force in the first part of the 18th century against

any municipality making a profit out

of its trading undertakings.

making as antithetical to the provision of the best possible public services, never fail to meet the arguments of their opponents with counter-arguments based upon the alleged profits of their trading under-

The real beginning of modern M. T. was in the middle of last century, when the Baths and Washhouses Act, 1846, enabled local authorities to erect municipal baths and laundries, while later various Acts empowered them to control and manages beylowes and deels miss. manage harbours and docks, piers, quays, and gas concerns. According to Mill, it was conclusively established, however, that government agency in any of the common operations of industry or commerce was never able to maintain itself in equal competition with individual agency competition with individual agency where the latter had sufficient capital and enterprise. But M. T. nevertheless throve in spite of the arguments of political economists, especially when town or district councillors promised to secure the profits for the benefit of the general body of ratepayers. Many Socialists disagree with such allocation of profits on the ground that it is a concession to the propertied class, but cession to the propertied class, but it has proved a redoubtable factor in the cause of M. T., and has served to obscure the undoubted fact that the small absolute profit made in many undertakings sinks into in-significance against the profits of those undertakings before being acquired by the municipality from the private owners. During the last quarter of the last century a number of local authorities obtained the passing of private Acts of Parliament enabling them to establish gas works, but only in those places where there were no existing private companies; and later, they were given the right to purchase the undertakings of electric and tramway companies after the lapse of a fixed period of time. In 1890, Part III. of the Housing of the Working Classes Acts empowered local authorities to build dwellings for the working classes (see HOUSING OF THE WORKING CLASSES), and though the dearth of such ac-commodation in rural districts re-mains to this day (1913) a blot on the English social system, urban district councils have in more recent years availed themselves of these powers to an ever increasing extent. At the sion of municipal trading so far as the nature of undertakings is concerned, and the principal municipal undertakings still comprise but little appalling mortality of infants, reapresent day, there is no great exten-

make a profit, most advocates of outside waterworks, gas works, elec-M. T., while deprecating profit-tricity supply, tramways (whether tricity supply, tramways (whether owned and worked by the municipality or owned by the municipality and worked by private companies), baths and washhouses, burial grounds, har-bours, piers, and ferries, and workingclass dwellings, and markets. But one or two councils (e.g. Bradford and the Manchester Corporation) have made tentative proposals to secure statutory powers to purchase coal mines; a few London councils and Bradford Town Council have established milk depots to supply sterilised milk for children; many provincial towns availed themselves of an Act authorising them to raise money for municipal telephones (all of which have now been sold to the Post Office). the London County Council ran a disastrous steamboat service, while a few have, with indifferent success, established a municipal motor-bus service. In 1911 the Brighton and Hove councils were at variance over the desirability of running a railless tram or bus service, and the pro-posal has not so far been proceeded with. In May, 1913, the Birmingham City Council sanctioned the experi-ment of the tramways committee in running a motor-bus service, and the committee proposed to purchase the buses at a cost of £10,000.

With the realisation of the full meaning of the growth of M. T. have come curiously unscientific defences which bear a striking resemblance to those advanced in the differentiation of Socialism from Liberalism (q.v.). It is contrary to the spirit of the English legislature to pass measures which in any way put a premium on officialism at the expense of private liberty, and hence it is constantly attempted to set arbitrary limits to the so-called legitimate objects of municipal ownership and management. Logically, there would seem to be no limit at all, so far as the nature of the undertakings themselves is concerned, whatever moral sanction may be imposed by the actual may be imposed by the actual economic results of individual experiments in M.T. Mr. Tower submits the opinion that had the state thirty or forty years ago 'devised model franchises, securing a good service, a share of profits for the ratepayers, maximum prices, and regulations as to conditions of employment, it is clear that an admirable system of municipal control of private mono-polies would have been set up, and the way to administrative Socialism insurmountably barred.' But experisonably traceable to contaminated the claiming 'gross' profit as indicamilk, are in themselves irresistible tive of financial success, the omission arguments for the establishment of from the accounts of particular undermunicipal milk conc

of economics if such

turns out to be a gua rates, and the neglect Moreover, the higher the degree of to charge accounts with a sufficient control the more imperceptible be-sum on account of depreciation or comes the line of depreciation or depreciation. control the more imperceptible between control and ownership, or in other words the more numerous the restrictions on the freest possible play of forces within the community, the greater is the tendency of 'personal rivalry and competition as the fundamental impetus behind progress' to give place to collective endeavour.

Till och bedocht at out (Leisercae) in leading the way therein it most representation to the control of the control o ************ is not a gainer as a whole from chean services, excellent sanitation, and so Major Darwin (Municipal Trade), in showing how far beyond other countries England has gone in municipal trading, gives the following statistics of municipal debts:

Deht per

Year head England 1898 £8 8 United States 3 1890 $\frac{2}{3}$ 0 14 1899 0 France 9 Italy. 1889 Ð 1880 0 Belgium

(Municipal Lord Avebury (1 l Trading) and these } National quotes figures, and justly regrets that they cannot be given for the same year; moreover, Germany is an important omission. Lord Avebury thinks that it is 'a moderate estimate that the

from reliab
Mr. W. G.
the London Municipal Society, that
the London Municipal undertakings
the becomes involved, as compared with boroughs having no municipal concern, a cost of £207 10s. per m. per street lighting as against £38 5s. Into the detail of the finance of M.T. It is not intended by the present writer to go beyond pointing out that there is undoubledly considerable justification for assuming that in past years, at all events, the method of book-keeping by the most striking instances of this being business proposition.

penses paid out of the

· xpenses being charged

for establishment charges.

It is noteworthy that, in spite of vigorous writing against M.T., the Select Joint-Committee on municipal trading, appointed in 1903, devoted itself exclusively to municipal accounts, and though it condemned the then existing system of credit by Local Government Board district auditors, whom it considered not properly qualified to discharge their duties, its findings were silent on the

merits of municipal trading.

The following figures are abstracted from the latest (1909-10) annual local taxation returns. Only such totals have been taken as are explicable without reference to other accounts. In reference to the sums spent on housing, it is to be observed that these will include inter alia sums spent on improvement schemes or other unproductive work (see Housing of the Working Classes). Again, the amounts expended on harbours and piers, etc., will, so far as most local authorities are concerned, appear unduly small, but it is to be borne in mind that there are special conservancy authorities for their areas in most cases (see last column on Table VI.).

Excluding the London County Council, the total sums in Table I. (reproduced in substance as follows). applied to the repayment of loans for it is 'a moderate estimate that the great increase of municipal debt has all T. purposes were: Baths, wash-lowered the price of municipal stock 10 per cent, and that this will involve the payment of ope-third per cent. more interest, and a substantial increase of expense, both of which items must be deducted from the supposed profit of the so-called transways and light railways, to take a core interest.

total repaid by local authorior all purposes was £13,220,575, of which no more than \$4,612,640 related to municipal trading purposes in spite of the fact that of the total amount of loans outstanding against local authorities, viz. £536,868,866 (circ.) over £300,000,000 are municipal trading loans. The total amount of interest on loans for municipal trading purposes was \$8,545,373, or about one-half of the total amount payable on loans for all purposes. A glance at Table II, may, however, spending authorities has been of an lead to the prima face supposition apparently dishgrenuous mature, the that M. T. is economically a sound

Table II .-- Aggregate Receipts of Local Authorities for 1909-10 and Earlier Years

01-6061	5,499,201	7,484,429	3,663,015	6,091,847	991,445 1,013,420	1,452,435
1908-9	£ 4,909,627	7,487,871	3,491,040	3,680,681		1,429,396
1907-8	£ 4,768,338	7,648,814	3,403,887	3,614,507	993,660	1,504,044
1904-5	4,509,858	7,092,515 7,648,814 7,487,871 7,484,429	910,329 2,566,987	3,334,585	946,648	1,438,101
0061-6681	2,086,249 2,515,217 2,875,984 3,730,219 4,509,858 4,768,338 4,909,627 5,499,201	3,302,119 3,867,416 4,750,738 6,035,526	910,329	2,967,062	827,411	835,026 1,153,543 1,438,101 1,504,044 1,429,396 1,452,435
1894-95	2,875,984	4,750,738	123,580	2,485,270 2,689,762	723,841	835,026
1889-90	2,515,217	3,867,416	no return	2,485,270	654,891	695,856
1884-85	2,086,249	3,302,119	no return	2,226,098	617,775	555,072
Revenue of	1. Water supply under- takings	2. Gas supply undertakings (c.g. gas rentals)	3. Electric lighting under- takings	4. Harbours, docks, piers, canals, etc.	5. Markets	6. Baths, washhouses, ceme- teries, sewage farms and works, slughter- houses, fire brigades, libraries, and museums, etc.

TABLE III.—ABSTRACT FROM LOCAL TAXATION RETURNS FOR 1909-10
OF MUNICIPAL TRADE ACCOUNTS FOR LONDON COUNTY COUNCIL.

	Receipts, excluding Loans	Expenditure	Raised during 1910-11	Expended during 1910-11	Outstanding at the end of the year
M=====================================	£ 2,265,355	£ 1,380,827	£	£ 200	£ 0.50
Tramways . Electric light-	2,200,500	1,300,021	833,333	833,333	9,579,958
ing .	711,588	304,911 (other than public light- ing which amounted to £385,299)	192,479	196,723	5,460,975
Markets Housing of the	251,878	129,299	2,570	1,340	3,040,490
working classes	••	101,659	105,220	94,593	4,835,056

A comparative table showing outstanding loans from 1906-11, particulars of which were furnished by council officers:

	1906-7	1907-8	1908-9	1909-10	1910-11
Housing of the working classes. Tramways Thames steamboats and piers.	£ 3,991,709 6,133,564 277,556	£ 4,031,354 7,330,698 265,484	£ 4,035,879 8,126,697 253,475	4,067,763 9,017,507 214,625	£ 4,082,369 9,579,958 193,683

The disastrous nature of the Thames steamboat experiment may be inferred from the following progression of receipts from 1906-11 for 'Thames steamboats and piers': 1906-7, £40,786; 1907-8, £35,635; 1908-9, £5,492; 1909-10, £2157; 1910-11, £465.

TABLE IV.—The accounts of the Corporation of London show that the total receipts were £866,479, and the expenditure £857,708. Less than one-sixth of the total receipts was derived from rates.

Proportions of total	l rece	ipts (£8	366,479) deri	ved f	rom :			Per cent.
Market revenues			sales,	divid	ends	and	profits	of	77.7
other property Rates	•		•	•	•	•	•	•	16.0
Other receipts .	:		:	:	:	:	:	:	6.3
									100.0

TABLE V.-TOTAL LOANS FOR ALL LOCAL AUTHORITIES

The loans received during 1909-10 for baths, cemeterles, electric lighting, gasworks, harbours, docks, plers, canals, and quays (other than those of the Port of London), markets, tramways and light railways, and waterworks amounted to £3,575,111 or 20 per cent. of the whole of the loans raised by local authorities; the loans expended amounted to £7,236,703 or 17°5 per cent., while the loans outstanding at the end of the year amounted to £278,512,094 or 52 per cent. of the whole outstanding amount. The figures for the Port of London authority's undertakings were respectively: £22,570,459 or 53 per cent., £22,547,008 or 55°6 per cent., and £23,209,909 or 4°3 per cent.

continent.

Munipore, see Manipur.

Munkacs, a tn. of Hungary in Bereg co., 80 m. N.E. of Debreczin. It is situated on the Latorcza, and has manufs. of coarse cloth. Near by are noted alum and iron mines.

15,000.

Munkacsy, Michael von (1844-1900), an Hungarian painter, whose real name was Lieb, was born in Munkacs. After passing through severe vicissitudes through the death of his father and mother, he was sent by friends and mother, he was sent by triends to the art school at Pesth. After some time he went to Vienna and then to Munich, where he studied under Franz Adam. At Disseldorf he painted 'The Last Days of a Condemned Prisoner,' which made him famous. Soon after this he went to Paris, where he resided for a great number of years. number of years. Here he won a number of honours and medals for his paintings. His chief pictures are: 'Christ before Pilate,' The Crucifix,' Ecce Homo,' Arpad '(hung in the Hungarian parliament), 'The Apotheosis of the Renaissance '(Vienna), 'The Death of Mozart,' 'The Two Families,' Milton dictating Paradise Lost to his Daughters.' The first three paintings are now in Philadelphia.

Munro, Sir Hector (1726-1805), a British general. His work has been done in India, where he suppressed a mutiny at Patna, 1764, and de-feated the natives at Buxar, 1764. He became lieutenant-colonel in 1764, came back to England, and in 1768 was returned M.P. for the Inverness burghs. He was given a commission in Madras, 1777, when he went back to India, capturing Pondicherry, 1778, and Negapatam, 1781. He again returned to England in 1782, and became successively. in 1782, and became successively major-general, lieutenant-general, and general in 1798.

Munro, Hugh Andrew Johnstone (1819-85), a Scottish classical scholar and critic, born at Elgin in Scotland, and educated at Trinity College, Cambridge, becoming professor Latin at the University. He edit and translated the Vatican a He edited Laurentian manuscripts of Lucretius, and edited Horace in 1868. Criticisms and Elucidations of Catullus Criticisms and Elucidations of Catallus (1878) contains some very valuable information, and he also wrote many Greek and Latin verses, and contributed to the most learned and scholarly periodicals of his time.

Munro, Neil (b. 1864), a Scottish author and journalist, born at

Muniong Range, mountains of New South Wales and Victoria, Australia, torning a part of the Great Dividing was entitled The Secret of Heather Chain. Mt. Kosciusko (7308 ft.) is Ale (1893). Three years later he putthe highest point in the Australian lished a collection of short stories, was entitled The Secret of Heathe, Ale (1893). Three years later he published a collection of short stories, The Lost Pibroch. His novels are The Lost Puroch. His novels are chiefly historical, and include: John Splendid, 1898; Gilian the Dreamer, 1899; Doom Castle and the Shoes of Fortune, 1901; Children of Tempes, 1903; and The Daft Days, 1910.

Munro, Robert, M.A., M.D., LL.D., F.R.S. (b. 1835), a Scottish physician and archeologist, born in Ross-shire. He practised as a physician until 1886.

He practised as a physician until 1886 when he retired and devoted himself entirely to archæology and anthro-pology. He made a particular study of Lake dwellings, and his works inolude: The Lake-Dwellings of Europe, 1890; Prehistoric Problems, 1897; Pre-historic Scotland and its Place in European Civilisation, 1899; Archaology and False Antiquities, 1905; and articles on 'Stonehenge' and 'Stone Monuments' in the 11th cd. of the

Ency. Brit.

Munro, Sir Thomas, Bart. (1761-1827), a military officer, born and educated at Glasgow. He was ap-pointed infantry cadet at Madras, 1779. Served in the war against Hyder Ali, 1780-S4, then promoted to lieutenant. The civil administration of the Baramhal was formed 1792-99, in which he assisted Captain Read. He undertook the task of bringing to order the new province of Kanara. In 1804 M. was promoted to lieutenantcolonel, and rendered great services to General Wellesley (afterwards Duke of Wellington) during the war with Scindiah and the Rajah of Berah. In 1807 M. came back to England after an absence of twenty-eight years, and showed keen interest in the discussions regarding the re-newal of the East India Company's charter. He returned to India in 1814 on a commission to reorganise the judicial and police departments. During the Mahratta War he was brigadier-general. M. resigned all his commissions owing to bad health and returned to England in 1819, when he was made governor of Madras.

was made governor of Madras.

Munster, a prov. in the S.W. of Ireland, comprising the counties of Cork,
Waterford, Kerry, Limerick, Tipperary, and Clare. It was originally,
i.e. before Henry II.'s reign, divided
into two kingdoms, Desmond and
Thomond, and the title and rank of
King of Munster was borne by the
rulers of the respective kingdoms
alternately. Area 9520 sq. m. Pop.
(1911) 1,033,085.

Münster, the cap. of Westphalia.

Münster, the cap. of Westphalia, Prussia, is situated at the confluence of the Aa with the Münster Canal, at 65 m. N.E. of Düsseldorf. M., which

is a bishopric, is one of the handsomest towns of Westphalia, retaining numerous remains of medieval
architecture, whose quaint picturesqueness is enhanced by the numerwhen hot, and can be more easily
ous trees and shady allees by which
the squares and streets are ornalargely supplanted as material for
shoothing awing also to its lower price. mented. The cathedral, built between the 13th and 15th centuries, was despoiled of all its internal by the Anabaptists. The Gothic church of St. Lam

market-place, was finished in the 13th century. The industrial products of M. include leather, woollen fabrics, thread, starch, and sugar, besides which there are good carriage manufactories, breweries, distilleries, and printing works. The trade is limited to the produce of the country. the principal of which are the noted Westphalian ham and sausages. Pop.

90,283.

Münster, Sebastian (1489-1552), a German scholar, born at Ingelheim. He entered a Franciscan convent, but becoming a convert to the opinions of Luther, he threw off his monastic habit, and was appointed professor of Hebrew at Basle in 1529. The most important of M.'s works are: Biblia Hebraica (2 vols.), 1534-35 and 1546; Grummatica Chaldaica, 1527; Dictionarium Chaldaicum, 1527; Dictionarium Trilingue, in quo Latinis Vocabulis, Græca et Hebraica respondent, 1530; Horologiographia, spondent. 1530; Horologiographia, 1531; Uranicum. Organum 1536: Cosmographia Universalis, 1544; and Rudimenta Mathematica, 1551.

Münsterberg, a tn. in Silesia,

Munster-Ledenburg, Georg :

Count zu (1820-1902), a Germa matist, born in London. son of a Hanoverian statesm was appointed minister to St. burg (1856-64). He exerted all his energies to prevent Prussia from annexing Hanover, but having failed, he entered the Prussian diplomatic service (1866), and became a member of the Reichstag. From 1873 to 1881 he was ambassador to England, and to France from 1885-1901.

Muntjac (Cervulus muntjac), a small deer which ranges throughout South-Eastern Asia. The hair is short and Eastern Asia. The hair is short and smooth, and bright rufus bay in colour, with a patch of white on the throat and beneath the tail. The buck's head has the V-shaped frontal bone greatly prolonged into two pedicles covered with skin and hair; short antlers grow from the tips. In the upper jaw are two sharp canine teeth which often extend below the lower lip.

sheathing, owing also to its lower price. Münzer, Thomas (1490-1525), a Anabaptists (q.v.), born

Harz Mts. Mts. A Hussite preached exag-520), gerated Christian liberty, opposing civil government, religious rites, etc. (1521). He headed an insurrection in 1524, but was defeated by the Elector John and Duke George of Saxony. the Landgrave of Hesse, and the Duke of Brunswick. He was beheaded at Muhlhausen along with

Pfeifer and a number of others

Munzinger, Werner (1832-75), Swiss traveller and linguist, born at Olten. In 1854 he went to Egypt and was in command of a commercial exredition, and then stayed in Keren, the capital of Bogos (1855). From Egypt he travelled into Eastern Africa, and in 1861 he joined Heuglin's expedition to explore Central Africa and reached Kordofan. In 1864 he was appointed British consul at Massowa, and was one of the explorers in the British expedition to The British, however, Abyssinia. gave up the expedition and M. then French returned to Massowa as In1872he was made consul. governor-general of Eastern Soudan. and in 1875 was killed at Lake Assai Münsterberg, a tn. in Silesia, in a ngne with Gallace of Prussia, 37 m. S. of Breslau on the travels M. studied the languages of Ohlau; has manufs. of clay-products the countries he visited, and some of Ohlau; has manufs.

1859; Ostafrikanische nd 1883; Die Deutche Ostafrika, 1865; and cabulaire de la langue ere are biographies by Dietsche and Weber (1875) and J.

von Kellerschokke (1890).

Murad, see AMURATH. Muræna, or Moray, a large eel-like fish without scales or pectoral fins, and distinguished from the true eels by the narrow slits into the pharynx. inhabit tropical and subtropical seas, innabit tropical and subtropical seas, and are very fierce and voracious, seizing their prey with formidable pointed teeth. M. helena is rich brown, marked with yellow spots. Most Ms. are richly coloured, and some attain a length of 10 ft., particularly M. Macrurus of the Indian case. Altogether some eight species seas. Altogether some eighty species are included in the family Muræindæ.

Murakami, a coast tn. of Hondo, Japan, 45 m. from Nügata. Pop.

10,000.

Mural Decoration (Lat. murus, wall). Muntz's Metal, or Yellow Metal, is the art of adorning walls by means of

surface painting in fresco, oils, or encaustic, by mosaic compositions, and by carving in wood, terra-cotta, stone, following year married Napoleon's romarble. The term is also extended to the decorative treatment of vaults and ceilings. A great feature of early Egyptian art was the internal surface decoration, which was carried to great The walls were covered perfection. with figure and other designs, in low relief, or deeply incised, and were In Assyria, relief gaily coloured. sculpture and colour decoration was recognised as forming an integral part of architecture. The walls were decorated with sculptured dadoes and coloured friezes, representing groups of figures. The sculptured friezes and metopes of ancient Greece, used as decorations for temples and public buildings, are of incomparable beauty. The Greeks did not use colour effects, relying entirely on the beauty of outline and on shadow effects. The early Romans employed three principal methods of M. D.: painting in fresco, mosaic painting, and marble incrustations. The Romans, too, showed their love of colour by using marble, which they had brought away from their eastern and African conquests. later centuries, Italian artists painted in oils on plaster. Cimabue and Giotto painted in fresco, leading the way in others. In Northern Italy, striking colour effects were produced by using not only rich marbles but terra-cotta, and by skilful arrangement of bricks. In modern times the art of M. D. has unfortunately declined, though several attempts have been made to revive it. The chief forms of M. D. employed in domestic architecture are tapestry, embossed linen, wood panelling, stamped leather and wall-paper. Consult Thomas, Mural Decorations, 1869; Crowninshield, Mural Painting, panelling, 1887; White, Practical Designing, Baldry, Modern Mural Decoration, 1902; Jackson, Mural Painting, 1904. See also separate articles on Frisco,

Mosaic, Tapestry, Wall-Paper, etc. Murano, a tn. in the prov. and 11 m. N. of the city of Venice, Italy, on the island of Murano in the Venice Lagoon. It has the Cathedral of San Donato (10th century). It has long been the seat of the Venetian glass industry. Pop. 5500. Murat, Joachim (1767-1815), King of Naples, born at La Bastide-

Fortunière, near Cahors, France. He entered the French army, in which he served under Napoleon Bonaparte in Italy and Egypt, and became greatly attached to him. For his part in the 13th vendenilaire he was made a lieutenant-colonel and first nide-decamp to Napoleon, and after Aboukir Murchison, a gold field of W. Auswas made a general of division. He tralia, N. of Lake Austin, 21,600 sq.

the Cisalpine republic in 1801, and after taking part in the battles of Jena, Eylau. Austerlitz, etc., was made Grand-Duke of Berg and Cleves for his share in the last-named. In 1808 he was crowned King of the Two Sicilies under the title of Joachim I. Napoleon; the Bourbons held Sicily, but Joachim governed Naples wisely and well. After accompanying Napoleon to Russia, M. made over-tures to Austria and Great Britain because he feared Napoleon's treachery. When the latter escaped from Elba, M. thought he could himself win all Italy and then treat with Napoleon as an equal, but he was checked at Ferrara and routed at Tolentino. After Napoleon had refused his proffered aid, he staked his all on an expedition to Calabria, but his popularity had vanished, and he was cap-tured and shot at Pizzo. Muratori, Lodovico Antonio (1672-1750), a noted Italian scholar, antiquary, and historian, born at Vignola, near Modena. In 1694 he became director of the Ambrosian College and Library at Milan, and while there published Anecdota Graca, and

Anecdota Latina, previously unedited fragments. Recalled to Modena became librarian and (1700),he archivist to Duke Rinaldo I. three chief works are: Rerum Italicarum Scriptores, 1723-51, dealing with the Mediihistory consti-Evi. 1 of the tution, middle ages; and Annali d'Italia, middle ages; and Annah a Mail, a Mail, a Mail, a Mail, a critical history of Italy from the birth of Christ down to 1750. The Anti-chita estensi appeared in 1717-40. See Operc, collected 1767-80 and 1790-1810; Campori's ed. of the Epistolario, 1990 of the Experiment. 1901 et seq. Consult G. F. Muratori, Vila, 1756: Schedoni, Elogio, 1818: Tiraboschi, Bibl. mod., ili. Muravieff, Count Michael Nikolaievitch (1845-1900), a Russlan diplomatist, born in Poltava, Russlar studied superficially at Heidelberg, and in 1848 entered the Chancellerie of Minister of Foreign Affairs. He held minor positions in Stuttgart. Berlin, Stockholm; later was second secretary in Berlin and first secretary.

secretary in Berlin and first secretary in Paris. In 1863 he incurred oddum through his drastic measures in deal-ing with the Polish Insurrection. He was appointed Minister of Foreign Affairs in 1897.

m. in area. dist., 540 m. N.N.E. of Perth. Pop.

4000.

Murchison, Sir Roderick Impey (1792-1871), a British geologist, born at Tarradale, Ross-shire, Scotland. He served with Wellesley in Galicia, 1808, and later under Sir John Moore, being present at the battle of Corunna. he left the army in 1816 and devoted himself to geology. He explored large parts of England and Scotland, and later travelled in France, Italy, the Tyrol, and Switzerland, studying the geological structure of the Alps. M.'s chief title to fame was the establish-ment of the Silurian system and his exposition of the Permian, Devonian, and Laurentian systems. Amongst other works, he published The Silurian System and The Geology of Russia in Europe and the Urals. See Life by Sir A. Geikie, 1875.

Murcia: 1. A maritime prov. of Spain, forming part of the ancient Moorish kingdom of the same name between Andalusia and the kingdom of Valencia. The state is very mountainous in the S. and E., but there are fertile valleys rendered fruitful by irrigation, and the celebrated 'huertas' (gardens), about 27 m. long and 3 m. broad, contain orange groves, mul-berry and olive trees, vines, etc., and produce quantities of fruit and vege-tables. There are large deposits of salt, and minerals are abundant. The principal manufs, are metals and silks. M. was conquered in 713 by the Moors, and became a dependency of Moors, and became a dependency of Spain in 1240. Area 4453 sq. m. Pop. 600,489. 2. A walled city and episcopal see, cap. of above prov., 28 m. N.N.W. of Cartagena. It is an important industrial centre. The R. Segura divides it into two portions, connected by a fine bridge. The principal building is the cathedral, founded 1388. It has various manufactured the statement of the cathedral of the ca founded 1388. It has various manufs. including a saltpetre and gunpowder factory. Pop. 124,985.

Murder. The generally accepted

definition of M. in English law is that of Coke: 'When a person of sound memory and discretion unlawfully killeth any reasonable creature in being, and under the king's peace with malice aforethought, either express or implied ' (see MALICE). Paraphrased this means: (1) That within limits children and idiots, or lunatics, cannot be guilty of M. But a lunatic who kills another person may be confined in Broadmoor or some other criminal lunatic asylum during the criminal intended asymmetric terminal the royal pleasure (see also instance and Criminal Law). (2) That the mere killing of another by whatsoever means, whether by an act or omission likely to result in death, raises a presumption of felonious homicide which

Cue is the cap, of the the accused must rebut by showing some justification (see Justifiable HOMICIDE) or excuse (as, e.g., in self-defence). (3) That it is not M. to kill an infant in the womb, though such act of procuring abortion is punishable as a felony with penal servitude to the extent of life. But where a child born alive (in Scots law this is child corn ain's (in Scots law this is proved by any one who heard the child cry; in English law by medical testimony that it breathed) after-wards dies by reason of drugs or wounds received while in the womb (a fortiori afterwards), those who administered such drugs or wounds are. according to the better opinion, guilty of M. (4) That it is not M. to kill an alien enemy actually participating in warfare against the state, but M. committed by a British subject upon a foreigner (not an enemy) abroad is an extraditable crime, and the murderer can be punished by an English court. (5) That the guilty state of mind essential to M., though generally one of sedate and deliberate intention to kill, may be inferred from any wanton or cruel act against another likely to result in death (see also Manslaugh-TER and Malice). 'Constructive' M. means the killing a person while engaged in committing another felony, e.g. if a burglar fearing capture rushes so violently past an inmate of the house as to cause his death, that will be M. however unintentional the killing. But in practice the death penalty is never inflicted in a clear case of merely 'constructive' M. There is no crime passionelle in English law, for no provocation however great will justify killing, though if there be no express malice (q.v.), the charge would be reduced to man-

slaughter. Suicide or self-murder is a felony punishable by imprisonment, but it is a commonplace of English criminal law that if two people agree to commit suicide together and one survives. the survivor is guilty of M. Accessories before the fact to M. are equally guilty and punishable with the principal offender; and an attempt to commit M. is punishable with penal servitude up to life. The punishment for M. is death, though in Anglo-Saxon times it was redeemable by payment of Wergild, or blood money, to the relatives of the murdered man. In some of the United States M. is classified into degrees. For example, M. by poison or by any premeditated design is M: in the first degree, and punishable with death; all other kinds of M. are said to be in the second

Murdock, William (1754-1839), a British engineer and inventor, born at Auchinleck, Ayrshire. In 1792 he used coal-gas as an illuminant in his own house, and ten years later it was used for lighting Soho. He also experimented on a high-pressure locsentive, and in 1784 made a small locomotive, and in 1784 made a small locomotive steam-engine. He improved greatly on Watt's steam-engine, and Mondes and wrote a number of tales greatly on Watt's steam-engine, and invented apparatus by which it was possible to use compressed air, devising the first oscillating steamengine.

Mure, Sir William (1594-1657), a Scottish poet, born at Rowallan in Ayrshire. He became M.P. in Edin-burgh in 1643, the following year being

Boyd's Hecatombe translation of Christiana; and several miscellaneous poems. Mure, William (1799 - 1860), British classical scholar and historian, born at Caldwell, Ayrshire. His principal work, Critical History of the Language and Literature of Ancient Greece, was unfinished when he died. Greece, was unfinished when he died. His other publications include: Journal of a Tour in Greece and the Ionian Islands; Brief Remarks on the Chronology of the Egyptian Dynasties; A Dissertation on the Calendar and Zodiac of Ancient Egypt, etc.
Muret (or Muretus), Marc Antoine (1526-35), a famous French humanist, born at Muret, near Limoges. In 1563

horn at Muret, near Limoges. In 1563 he went to live in Rome, where he lectured and taught civil law till 1584, when he retired. He edited Latin authors and wrote Orationes, Epistolæ, and Variarum Lectionem Libri XIX. See Collected Works, ed. Frot-

ALA. See Collected Works, ed. Protescher and Koch Leipzig), 1834-41.

Murfree, Mary Noailles (b. 1850), an American novelist, writing under the pseudonym of 'Charles Exbert Craddock,' born at Murfreesboro, Tenessee, U.S.A. She began her literary career in 1878 with contributions to the Atlantic Monthly, consisting of pictures of mountaineer life in Tenescher. pictures of mountaineer life in Tennessee, later published under the title of In the Tennessee Mountains.

in 1811, and incorporated in 1817, than that exhibited in his later pic-

Mondes and wrote a number of tales and dramas. Other works are: Scènes de la vie de jeunesse; Les buveurs d'eau; Madame Olympe; Le sabot rouge; and other prose tales, and a collection of poems entitled Les nuits d'hiver. Andrew Lang has translated several of his songs in Ballads and Lyrics of Old France.

Murghab: 1. Ariver of Central Asia, rising in Afghanistan and flowing W. and N.W. into Russian Turkestan and N.W. into Russian Turkestan through the oasis of Mero is lost in the sands 150 m. below Mero, after a course of about 370 m. 2. A river rising in the Pamirs, W. Asia, at an alt. of 13,720 ft., and flowing N.E., N.W. and W. to its junction with the

N.W. and W. to its junction with the Panj, or S. head-stream of the Oxus, at Wakhan. Length 260 m.
Muri: 1. A prov. of N. Nigeria, traversed by the Benue R. Pop. about 500,000. 2. A tn. of N. Nigeria, W. Africa, in Sokoto, 15 m. from the r. b. of the Benue, 300 m. E.N.E. of Lokoja.

Murillo, Bartholomé Estéban (1617-82), was born at Seville, and baptised Jan. 1, 1618; and after receiving some education, was placed with his relative, Juan del Castillo, to study painting. Having saved a little painting. money, which he made by painting religious pictures for exportation to S. America, he went to Madrid in 1641, being then in his twenty-fourth year, was favourably noticed by his celebrated townsman, Velasquez, who treated him with the greatest kindness, and through his influence was enabled to study the chefs-d'œuvre of Italian and Flemish art in the royal collections. In 1645 he determined to return to Seville, after an absence of three years, though advised to pro-ceed to Rome by Velasquez, who offered him letters from the king. title of In the Tennessee Mountains. Amongst her other publications are:

Where the Battle was Fought; The Where the Battle was Fought; The Prophet of the Great Smoly Mountainers; In the Clouds; His Vanished Star; The Young Mountaineers; The Champion; The Story of Old Fort London; A Spectre of Power; In the maintained a handsome establishment of Stranger-People's Country, etc.

Murfreesboro, a city and co, seat of Rutherford co., Tennessee, U.S.A., agricultural district, and carries on a considerable trade in cotton, grain, live stock, timber, etc. M. was settled
in 1811, and incorporated in 1817. than that exhibited in his later picMurman tures, which are mostly scriptural or religious pieces. Amongst various altar-pieces which he painted for the churches and convents in Madrid, Seville, Cordova, Cadiz, and Granada, is one representing the 'Marriage of St. Catherine,' and it was on the eve of his finishing this work that he met with an accident in the scaffoldinghe wounded himself so badly that he continued to feel the effects until his death, which occurred at Seville in April 1652. He was buried in the church of Sta. Cruz. In the Louvre, and in England, there are about forty of his wells. of his works. The most celebrated of M.'s pictures are: 'Moses striking the Rock,' 'Christ feeding the Five Thousand,' 'St. Anthony of Padua,' 'The Prodigal's Return,' and 'St. Elizabeth of Hungary.' The picture M. preferred to all his other works was that of 'St. Thomas de Villa Nueva distributing Alms to the Sick and Poor.' His chef-d'œuvre is the 'Immaculate Conception,' which was purchased for the Louvre at the sale of Marshal Soult's collection in 1852 for £26,612. Sir David Wilkie, who greatly admired and carefully studied the Spanish school, has remarked, in reference to it: 'Velasquez and Murillo are preferred, and preferred with reason, to all the others, as the most original and characteristic of most original and characteristics of their school. These two great painters are remarkable for having lived in the same time, in the same school, and of painted for the same people, and of the same age, and yet to have formed two styles so different and opposite, that the most unlearned can scarcely mistake them; Murillo being all softness, while and vivacity.

London, are 'The Holy the Lamb,' and 'A Boy Drinking.' Murman Coast, the N.E. coast of Kola Penin, Russian Lapland, about the Coast Norway and the 370 m. between Norway and the White Sea. At the mouth of the Gulf of Kola is the port and naval station of Ekaterininsk. Cod fisheries are

important. Murner, Thomas (1475-1536), a German satirist and opponent of the Re-formation. He was born at Oberehnheim in Alsace. In 1505 he was made poet laureate by Maximilian, and in 1513 became guardian of the Franciscan monastery at Strasburg. satirical works, directed against the Reformation and Luther, include Die Narrenbeschwörung, 1512; Von dem grossen Lutherischen Narren, 1522; and Die Gauchmatt, 1519, Consult Kannan

and 20 m, N.W. of the tn. of Potenza, Italy. Pop. 8500.

Murom, a tn. in the gov. of Vladimir, Central Russia, on the l. b. of the Oka R., 84 m. S.E. of Vladimir; has an old cathedral and various manufs. Pop. 13,400.

Muroran, a port and naval station in the prov. of Iburi, Yezo, Japan; has large steel works, and exports timber and coal. Pop. c. 12.000.

Muros, a com. in the prov. of Corunna, Spain, 29 m. W.S.W. of Santiago. Pop. 9130.

Murphy, Arthur (1727-1805), British actor

near Elphin made his déb

at Covent Garden. He wrote numerous farces and dramas, amongst them Three Weeks after Marriage, Know Your Own Mind. All in the Wrong, etc., and some satires and a translation of Tacitus.

Murphy, Robert (1806-43), a British mathematician, born at Mallow, Ireland. His chief publication is Elementary Principles of the Theories of Elec-tricity, and he contributed numerous

the Cam-"ransactions. Philosophical lso wrote a Algebraical

Equations.

Murphysboro, a city and co. seat of Jackson co., Illinois, U.S.A., 87 m. S.E. of St. Louis by rail. Coal and iron are mined. Pop. (1910) 7485.

Murrain, foot-and-mouth disease

(q.v.).

Murray, or Hume, the principal riv. of Australia, rising in the Australian

navigable for small steamers. chief tributaries are the Murrumbidgee, Lachlan, and Darling

Murray, Alexander (1775-1813), a Scottish philologist, born at Dunkit-terick. In 1806 he became minister of Urr, and in 1812 he was appointed professor of Oriental languages. His

processor of Oriental languages. His principal work was the History of European Languages, published after his death, and ed. by Dr. Scott, 1823. Murray, Alexander Stuart (1841-1904), a classical archæologist, born in Arbroath, and educated at the Universities of Edinburgh and Berlin, of the latter he attended the lecture. at the latter he attended the lectures of Boeckh and other famous scholars. Kawerau, Murner und die deutsche in 1867 he was appointed assistant Reformation, 1891, and Murner un die Kirche des Mittelalters, 1890.

Muro Lucano, a tn. in the prov. Roman antiquities in the British In 1867 he was appointed assistant

he made researches in Rome, Athens, Cyprus, and other parts of the Medi-

the Parthenon, 1903. Murray, David Christie (1847-1907), an English novelist, born at West Bromwich, Staffordshire. In 1876 he was special correspondent for the Times during the Russo-Turkish War. Times during the Russo-Turkish war. He wrote numerous novels, the best of which are Bob Martin's Little Girl, Verona's Father, In Direst Joseph's Coat, and (with H. F. One Traveller Returns, etc.

Murray, Eustace Clare Grenville (1819-81), an English journalist, tradied at Oxford and Inner Temple.

studied at Oxford and Inner Temple. He then served in the Austrian army, and two years later joined the British embassy at

at Hanov Odessa. E took up founded th The Queen libel in th

with perjul, trial he fled to Paris, where he wrote some brilliant articles for a few English papers. Embassies and Foreign Courts, The Roving English-man, The Member for Paris, and Young Brown are considered some

of his best works.

Murray, George Gilbert Aimé (b. 1866), au English scholar, poet, and author, born in Sydney, New South Wales, and educated at Christ Church. Oxford University; was a fellow of New College, Oxford, and in 1889 became professor of Greek at Glasgow University, and in 1908 regius pro-fessor of Greek at Oxford. In 1889 he married Lady Mary Howard, daughter of the ninth Earl of Carlisle. He pub-lished a History of Ancient Greek Literature (1897). His verse transegyeral . rojan

nia in Tauris, and Sopnocies' compas Rex (1902-13) are remarkable. Several have been staged with success under Vedrenne-Barker management (1994-7). Of his other publications may be mentioned, The Rise of the Greek Epic, 1911; The Origin of Tragedy, 1912; and Studies in Greek Religion, 1913.

Murray, Sir James Augustus Henry (b. 1837), a philologist, born at Denholm, near Hawick, Roxburghshire. Grote He graduated at London and Oxford, publis and received the degree of LL.D. M. (b. : hrother (Edin.) in 1874. He commenced Hallam M., succeeded on the death teaching at Hawick Grammar School of the third John M. A notable recent

Museum, and on his death (1886) M. in 1855; became master at Mill Hill succeeded him. From time to time School, 1870; assistant examiner in English to the University of London, 1875-79; and in 1885 went to Oxford. terranean. He wrote Manual of For many rears he has been engaged Mythology, 1873; History of Sculpin editing the New Oxford English ture, 1880-83; Handbook of Greek Dictionary. In 1878 he was appointed Archeology, 1892; The Sculpture of president of the Philological Society, London, for which he has written various papers. He is also the author of articles on the History and Lan-guage of the Border Counties, and The Dialect of the Southern Counties of Scotland.

Murray (or Moray), James Stuart,

Quarterly e

Earl of, see MORAY. English publishers, and long remain associated with many a classic writer of English With many a classic whiter of Tagasan literature. John (M') Miurray (1745-1793), the founder, born in Edinburgh, and first served as an officer in the Royal Marines. In 1768 he purchased of William became a 32 Fleet table publicatiostory of Greece, and Dalrymple's Annals. At his death he was succeeded in due time by his son John M. (1778-1843), who was left an orphan of fifteen at his father's death. The second John M. began by himself editing many medical and other works, and projected, as a counter-blast to the second for renowned ' enormous

activities, . Street became the resort of litera-teurs, including Walter Scott, of whose Marmion M. was part publisher, Southey, Byron, Campbell (notably Specimens of the Poels), Washington Irving, and the critic Gifford. He abandoned the publication of Byron's Memoirs as reflecting too much on their existing persons. In collaboration with Scott, Southey, and others, be published his Family Library of popular and economic literature in 80 volumes, a work which is further notable by reason that M. lowered the conventional price to reach a wider circle-a movement which has since been extended with such success in Dent's Everyman's Library. Another large series was Murray's Guide Books. John M. (1808-92) succeeded his father and himself wrote numer-

Travellers, travelling extensively on the purpose. purpose, ks were th John

ous volumes of the Handbooks for

publication was that of Queen m. N.E. of Rawal Pindi (alt. 7520 ft.). Victoria's Letters, which led to a libel Pop. 2000. action against the Times and heavy

damages.

Murray, John (1741-1815), an American elergyman, known as the 'father of American universalism.' He became a universalist after reading a tract on Union by James Relly. See Autobiography (Boston), 1816, ed. by Mrs. Murray.

Murray, Sir John (1718-77), of Broughton, son of Sir David M. of Stanhope, Peeblesshire. He was secretary to Prince Charles Edward, and was employed on various missions

by the Pretender.

(b. 1841), Murray, Sir John naturalist and geographer, born at Coburg, Ontario; and educated in Ontario; the High School, Stirling, Scotland; and at Edinburgh University. He was one of the naturalists who made that famous voyage in the Challenger, and was appointed editor of the reports of the expedition. He also took part in the explorations in the Triton and Knight Errant to the Faröe Channel. Besides the above reports he was one of the authors of The Narrative of the Cruise of the 'Challenger,' of A Report on Deep-Sea Deposits, and of A Report of the Survey of the Lochs of Scotland. He has also written numerous articles on geographical and marine subjects. Murray, Lindley (1745-1826), an

Anglo-American grammarian, born at Swatara, Pennsylvania. He was called to the bar in 1765. In 1784 he settled in England, and devoted himself to literature. His first book was *Power of* Religion on the Mind, 1787. Later he wrote the Grammar of the English Language, 1795, by which he is chiefly remembered. These were followed by English various works, such as

Readers, etc.

Murray, Sir Robert (1600-73), son of Sir Robert M. of Craigie, Ayrshire, one of the founders of the Royal Society. He fought in the Civil War. At the Restoration he was appointed Lord Justice Clerk and Privy Coun-He became a prominent member of the club in London instituted for the discussion of natural science which developed into the Royal Society. He obtained a charter for the society from Charles II.. and was made the first president, 1662,

Murray Bay, or Malbaie, a wateringplace and bay of Charlevoix co., Quebec, Canada, on the Lower St.

Lawrence R. Pop. 4300.

Murraysburg, a vil. and div. of Cape of Good Hope, S. Africa. The vil. is 50 m. W.N.W. of Graaff-Reinet. Pop. (vil.) 1300.

Murree, or Marri, a hill-station and sanatorium of the Punjab, India, 30 and crossed to Spain, taking several

Mürren, a vil. of the Bernese Oberland, Switzerland, 3 m. S.W. Lauterbrunnen. It affords a fine view

of the Jungfrau. Pop. 200. Murrhine (or Myrrhine) Vases, celebrated vessels of antiquity, brought from Asia to Rome by Pompey, after

his victory over Mithridates.

Murrumbidgee, a riv. of New South Wales, rising on the N.E. of the Australian Alps, and flowing 1350 m. westwards to join the Murray, 90 m. S.E. of the mouth of the Darling. It is navigable for 500 m. during the wet season.

Murrumburrah, a tn. of Harden co.,

New South Wales, 80 m. from Goulburn, with gold-mining. Pop. 1500.
Murrurudi, a tn. of Brisbane co.,
New South Wales, 50 m. from Tam-

worth. Pop. 1300. Murshidabad, a city and dist. of India in presidency of Bengal. The city lies 115 m. N. of Calcutta, and extends along both sides of the sacred river Bhagirathi. During most of the 18th century it was the Mohammedan

flourishing It contains

handsome structure. The industries include the manuf, of silk and other fabrics. embroidery, and articles of carved The entire ivory, gold, silver, etc. The entire district covers an area of 2143 sq. m., and the population numbers about 1,333,184. Pop. of tn. 15,000. Murtoza, a fishing centre of Aveiro, Portugal, 30 m. S. of Oporto. Pop.

10,000.

Muzuk, a walled tn. in Tripoli, cap. of Fezzan, 430 m. S.E. of Ghadames, situated in an oasis in the heart of the desert. It is a commercial centre on a caravan route from Egypt. Pop. 6500.

Mürzzuschlag, a tn. of Styria, Austria, on the Murz, 24 m. from Bruck. It is a noted health resort.

Pop. 6190.

Musa, Abu Abdallah Mohammed Ben, an Arabian mathematician, the first of his countrymen to write on the science of algebra, and to whom Europe is indebted for its introduction.

Musa, Antonius, a famous Roman physician, and a brother of Euphorbus. Is said to have been the first to recommend the use of cold baths, and cured the Emperor Augustus by this means. Was also of a literary bent and acquainted with Virgil and Horace.

Musa, Ibn Nosseyr, or Nosair (640-715 A.D.), Arab conqueror of North-ern Africa in 699-709. In 712 he formed an alliance with Count Julian

important towns, amongst them Seville. On his return he fell under the displeasure of the Calif of Damascus, who exiled him.

Musæus, a Greek grammatian who flourished about the 5th century A.D. He wrote an erotic poem, describing the loves of Hero and Leander, which has been translated into English more than once, notably by Christopher Marlowe (Dilthey's ed., Bonn, 1874).

Musæus, Johann Karl August (1735-

Musæus, Johann Karl August (1735-87), a German author, born at Jena. His first work, entitled Grandison der Zweite, was published in 1762; rewritten about twenty years later under the title of Der deutsche Grandison, its object being to satirise the English novelist Richardson's hero. Hi was: Volksmi a series of sat 1782-86. See M. säns, 1867.

, a constellation situated E. of Chameleon, and S. of the Southern Cross, also sometimes known under the name of Apis (the bee), and formerly used to designate a constellation N. of Aries. It contains four stars, one of the third and three of the fourth magnitude.

Muscardine, or Silkworm Rot, a disease which causes much loss among silkworms. It is caused by a fungus, many allied species of which are parasites in Lepidoptera, both in the caterpillars and the perfect insects.

Muscari, see GRAPE HYACINTH.

Muscat, a tn. and seaport on the S.E. coast of Arabia, cap. of prov. of Oman. It is under British political influence. The climate is hot and unhealthy. Dates are the principal export. M. was taken by the Portuguese in 1508 and remained under their rule till 1650, when they were finally expelled. Pop. about 40,000.

Muscatel, Muscatelle, Muscadel, or Muscadine (It. moscado, musk), a white wine produced in Languedoc, France, both strong and sweet. The name is generally applied, however, to most French and Italian wines made from the muscadine grape, either of the red or white variety.

either of the red or white variety.
Muscatine, a city of Iowa, U.S.A.,
on the r. b. of the Mississippi. Manufs.
include pearl buttons, terra-cotta,
pottery, etc. Pop. (1910) 16,178.
Muschelkalk, in geology, a limestone-bed belonging to the Red Sandstone formation or Triassle system of
Germany. It is chally and feesife.

Muschelkalk, in geology, a limestone-bed belonging to the Red Sandstone formation or Triassic system of Germany. It is shelly and fossiliferous (rich in organic remains), and Saurian reptiles occur. It is not found in Britain.

Muscle, a structure of the body insertion is in the tuberosity of the capable of causing motion by the contraction of its fibres. Muscular tissue consists of clongated cells or fibres, vessels, and lymphatics to carry the The fibres making up some of the Ms. substances for repair of tissue, and for

them under transverse stripes; these are called transverse stripes; these are called striped or striated fibres. Others possess no transverse markings, and are therefore known as non-striated or by A.D.

:ontract-

ı certain brought about, resulting in a change in the elastic tension of the cell. An increase of tension occurs in the points of attachment of the cell to neighbouring tissues, which ordinarily move under the strain, so that the length of the fibre decreases, while its diameter becomes proportionately bigger. In some Ms. this contraction is voluntary; that is, it is the result of an act of will. This modification of consciousness is accompanied by a certain mode of activity in some of the cells of the large brain, or cerebrum. By this means an impulse is communicated to the nerve-fibres supplying the Ms. and is conveyed to

the M. by ϵ the nerve-1 face of the

lace of the are not under the control of the win. Such are the Ms. causing the motion of the stomach and other parts of the alimentary canal. They are called involuntary Ms., and are made up of non-striated fibres, except the cardiac M., which resembles voluntary Ms. in being striated. The capacity of a M. for responding to a stimulus is termed its excitability. In cardiac M. the extent of contraction does not depend upon the intensity of the stimulus, but in Ms. attached to the bones a proportion is maintained between contraction and stimulus. If, however, a M. has been repeatedly contracted without much intermission, a stimulus does not evoke the usual

waste products, probably CO,, in the muscular tissue, which diminishes its excitability. After a period of rest, the waste products are eliminated, and the M. regains its normal power of responding to stimuli. The fleshy part of a M. is usually attached at each end to bands, or tendons, of white fibrous tissue, which is itself non-contractile, but serves to join the M. to some bone. The attachment which is more fixed is called the origin; that which is more movable is called the insertion. Thus, the biceps has two origins, in the coracold process and the glenoid cavity; its insertion is in the tuberosity of the radius, or the outer bone of the forearm. Every M. is supplied with bloodvessels, and lymphatics to carry the substances for rooms of tissue, and for

the combustion which liberates the Britain does not usually form the energy resulting in contraction.

Muses (Lat. Muse, Gk. Movoa) were, according to the earliest writers, the inspiring goddesses of song, and, according to later notions, divinities presiding over the different kinds of poetry, and over the arts and sciences. They are usually represented as the daughters of Zeus and Mnemosyne, and born in Pieria, at the foot of Mt. Olympus. Their original number appears to have been three; but appears to have been three; but alterwards they are always spoken of as nine in number. Their names and attributes were 1. Clio, the M. of history, represented in a sitting or standing attitude, with an open roll of paper, or chest of books. 2. Euterpe, the M. of lyric poetry, with a flute. 3. Thalia, the M. of comedy and of merry or idyllic poetry, appears with a comic mask, a shepherd's staff, or a wreath of ivy. 4. Melpomene, the M. of tragedy, with a tragic mask, the club of Heroules, a tragic mask, the club of Hercules, or a sword: her head is surrounded with vine leaves, and she wears the cothurnus. 5. Terpsichore, the M. of choral dance and song, appears with the lyre and the plectrum. 6. Erato, the M. of erotic poetry and mimic imitation, sometimes also has the lyre. 7. Polymnia or Polyhymnia, the M. of the sublime lyrmn, usually appears without any attribute, in a pensive or meditating attitude. S. Hamis of M. pensive or meditating account. Curania, the M. of astronomy, with a staff pointing to a globe. 9. Calliope or Calliopea, the M. of epic poetry, represented in works of art with a staff point of the control of the con

Helicon, where were the sacred foun-tains of Aganippe and Hippocrene. Mt. Parnassus was likewise sacred to them, with the Castalian spring. The sacrifices offered to the M. consisted of libations of water or milk, and of honey. The M. were invoked by the

osities and works

the benefit of the the the kind was the famous university trol of the Smithsonian Institution. the kind was the famous university trol of the Smithsonian Institution. Here were lodged and en-Soter (c. 283 B.C.). A library or picture-gallery may be included, but in

sole or even the most prominent feature of M. properly so called, though on the Continent the terms hough on the Comment one regularly musée and museum are regularly read for such collections. These inused for such collections. stitutions remained practically unknown from the 4th to the 17th century, and the earliest were merely of curiosities, aimless collections amassed without method or system. usually by private individuals, such as the Tradescant Museum, which became more valuable as the Ashmolean Museum (c. 1679), at Oxford. The growth and development of the modern M. was a feature of the later 19th century, the chief aims (as enunciated in 1870) being (1) to provide education, and (2) recreation for the people. Special attention is now given to arrangement and classification, to the cataloguing and preservation of the exhibits, and to the lighting, ventilation, and general comfort of the galleries. It is essential to avoid overcrowding the exhibits. The three chief systems for classification of the objects on view are: (1) by date; (2) by material; (3) by nationality, none of which are, as a rule, adopted exclusively, but in combination. Ideal M. should embrace as far as possible the whole range of human knowledge, teach the connection between all the different branches of learning, and destroy the arbitrary distinction drawn between M. of 'science' and of 'art. Lack of space has sometimes been responsible for such separations, notably in the case of the transfer of the Natural History specimens to Cromwell Road, S. Kensington, from the British Museum in Bloomsbury (founded c. 1753 from the Sloane collection). The Guimet the Sloane collection). The Gumer

m at Oxford of man-made Surgeons is a

M. of Comparative Anatomy. Noted outsinces offered to the M. consisted M. of Comparative Anatomy. Noted of libations of water or milk, and of M. of wider and more general aim are honey. The M. were invoked by the poets as the inspiring goddesses of song; and all who ventured to compete with them in song were severely punished by them.

Museums (from Gk. µovocior, temple of the Muses), the name now given to buildings where collections with the manufacture of the public c. 1789), M. at St. Peters, Wienna, Naples, Milan, Venice, and in America the Carnegie Institute at of scientific, literal

Museum National

building at Alexandria (including the Museums may be under national, provincial, or municipal control, or tertained the men of learning, each of run by a semi-public body, such as a whom had a handsome revenue. Its foundation is attributed to Ptolemy national M. originated in private Soter (c. 283 p. 26.) as for example collections, as for example the 'Hunterian Museums' of the Royal

formerly had many collections owned by her merchant-princes. The various great exhibitions, and especially that of 1851, did much to promote in-terest in M. and led to the establish-

ment of many in the 19th century.
In early days M. were for the few rather than for the many, as has also been noticed in the case of libraries, and visitors were only admitted a few at a time on payment of a fee, or by special ticket. The British Museum was first opened to the public in 1759, but admission to the galleries was at first allowed only on the presentation of a ticket obtained by writing, and the visitors were personally con-ducted round the cases and shown the exhibits. The present number of visitors averages about 1,000,000 a year. Most M. are now opened on Sundays, at least between certain hours, as well as on week-days. On the Continent there is often a small charge for admission, but it is unusual in Great Britain at the present day. The importance of M. for purposes of instruction has been recognised by educational authorities in the fact that properly conducted visits to the various M., under the supervision of qualified teachers, are allowed by the Board of Education to count as school-time. The treasures of the beautiful Victoria and Albert Museum, S. Kensington (for which handsome new buildings have recently been erected in the Brompton Road), were always intended for loan to other M. and schools of art when required, and this invaluable system of lending exhibits to other centres for a time may come to be more universally adopted. Municipal M. are mostly controlled by the Museums and Gymnasiums Act of 1891, and

College of Surgeons, London, and of Rapport sur les musées . . . d'Europe, Glasgow University, and above all 1885-90; Babeau, Le Louvre . . . 1895; the British Museum itself. Holland Cowtan, Memoirs of the Brit. Mus., Cowtan, Memoirs of the Brit. Mus., 1871; Meyer on Museums of America and Europe, and at Dresden, in Abhandl. Zool. Mus., 1893, 1900-2 (Eng. translation issued by Smithsonian Inst., 1905); and annual reports of the world's chief M.

ports of the world's chief M.

Musgrave, Samuel (1732 - c. 80), an English classical scholar and physician. He wrote Exercitationes in Euripidem, 1762: Animadversiones in Sophoclem, 1800: Two Disscriations, on' Greek Mythology,' and on' Newton's Objections to the Chronology of the Olympiads,' 1782: and works on medical subjects; and helped edit Euripides (4 vols.), 1778. Sec Schweighauser's ed. of Appian; Gent. Musgrave, William (c. 1657-1721), an English physician and antiquary, studied at Oxford. He was secretary to the Royal Society (1685), and settled in Exeter (1691), practising as a physician. He wrote treatises on gout and medicine. His three antiquarian studies, Julii Vidalis Epila-

quarian studies, Julii Vitalis Epitaphium (1711), Geta Britannicus (1716), and Belgium Britannicum, were re-issued as Antiquitates Britanno-Belgica: (1719). Consult Wood's Athenæ Oxon. iv. (Bliss ed.); Munk's Coll. of Phys. i. (2nd ed.).

Mushroom (Agaricus psalliola campestris), a very variable British fungus, which has long been valued for its edible qualities, and has been cultivated from 'spawn' since the 17th century. The 'spawn' is ob-tained from rich old pastures where horses and cattle have been feeding, and is made up with moderately dry cakes of dung and earth. If properly prepared it lasts fit for use for five years, the fungus being in a white thread-like form (mycellum). Except during a few weeks in autumn the supply c' of the d

the Public Libraries Law Consonaution Act of 1892. The Museum Association was founded in England in through 1889, and issued reports from 1890. difficult, and while the crop is profit—These were superseded in 1901 by the M. beds is all-important in the success M. beds is all-important in the success and the success methods of intensive cul-These were superseded in 1901 by the Museums Journal.

Consult Address of the President of the Brit. Assoc., 1889; Flower, Essays of modern methods of intensive culture. The crop can be raised in the open air, in frames, sheds, or cellars, as well as natural caves, mines, or rull-der Archäologic der Kunst, by Müller (1848), by Stark (1880); Prof. Jerons, perature of from 55° to 60° can be 'Use and Abuse of Museums,' in Methodsof Social Reform, 1882; Greenwood, Museums and Art-Galleries, minde ridge-shape on the driest manure from Museums,' Their History and Use..., 1904; Benedite, Rapport sur l'organisation... dans les musées de la rogh and ready distinctions of Ms. Grande Bretagne, 1895; Blandot, Les musées d'Europe, 1860; Blanchet, features, though variable make identification easily possible. When young it is globose, expanding until nearly flat, and from 3 to 6 in. across. It is white, and the thick flesh turns brown when cut or broken. The stem is stout, with a ring or frill near the top; and the crowded gills turn from rosy to dark brown. It occurs naturally in rich, open ground, not under

trees. Music, although in its modern form the most artificial of the arts, is primarily the most universal and spontaneous. Evidence of its use as a medium of emotional expression is to be found in every direction, from the incantation of the savage or the intoned Greek play to mediæval church-music, the Romantic movement of last century, and the symphonic poem or music-drama of today. M. in some form is probably as ancient and universal as speech in the general acceptance of the Greek M. is the radix from whidevelopment must be traced. Greek M. was, doubtless, largely influenced by Chaldean and Egyptian, by Indian and Chinese, such as it was; and several early Christian chants were derived from Jewish synagogue-tunes. But no deep study of such influences is possible, although it is surmised that ample material would have been available if the Alexandrian library had been preserved. All Greek plays nad been preserved. All Greek plays were sung, the modern counterpart of their tragedy being, of course, the music-drama, and of their comedy, the opera-bouffe. The term M. was held by the Greeks to signify any are over which the nine Muses presided, and poetry and melody were combined in one art-form as a matter of course (see Nietzsche's Birth of Tracedu. and various works by Tragedy, and Wagner on Greek drama). Æschylus wrote the melodies for his own tragedies, and even the Homeric epics were declaimed to the accompaniment of a lyre. With such importance attaching to M. as a literary adjunct, although its possibilities as an absolute art were unsuspected, it was not long before some method of definite systematication. sation and notation of sound was sought. The three genera, with their modes, were formulated HARMONY), and a code of notation by letters of the alphabet was constructed, three letters being given to each tone so that half and quarter tones could be recorded. Symbols of duration were also used, including the signs - and -, still in vogue for purposes of Latin verse-scansion and syllabification. The chief of the early methods of notation, however, was the system of neuma, but

of the approximate difference in pitch of successive notes in a melody he had already memorised, without expressing the exact intervals. It was not until the early 10th century that any definite progress in notation made, although the literal code, in which Latin characters had superseded the Greek, had been developed, particularly in connection with instrumental M. About the same time as Hucbald (d. 930), whose system of writing words in the spaces of a staff, useful in yocal M., did not survive him, a red line was drawn horizontally across a page to represent F; and the immediate addition of a green or yellow line above and parallel to the red, to give the locus of C, made possible the precise expression of any interval up to an octave. The present type of staff was reached in the 11th sted usually of four number was

no

until the 16th century, when a four-line staff was re-stricted to plain song, five-line being used for other vocal M., and six-line for organ and virginal. Signs F, C, and G were also written to their relative lines, thus originating the system of clefs. Bars, or staff-divisions, were introduced about this time to indicate accent: and within the next century, their use for rhythmic definition be-Many of these imcame general. provements have been attributed to Guido d'Arezzo (d. c. 1050), but whatever he suggested, his actual accomplishments were not remarkable. By this time, aided by the progress in notation, M. had reached the stage of the 'descant,' or 'discantus' HARMONY), from which the whole art of counterpoint was evolved, although the Greek practice of 'magadising' (i.e. singing in two parts, one an octave above the other) had been an attempt in the same direction. organum, in which a series of fifths was added to a canto fermo, was the first step; from this two-part writing the three- or four-part 'rondel' or the three- or lour-part ronger or rota' (not to be confused with the later 'rondo') was attained, the most famous example of this type being Sumer is icumen in (MS. c. 1225, British Museum, see article in Grove's Print of Mush. of floring four-part Dict. of Mus.), a flowing four-part over a brief two-part canon, probably the result of the fusion of a troubadour theme with church-music mode and counterpoint. These early polyphonic problems gave rise to a considerable principal c.g. Fran-de Morav

secular M. had also changed: crude

Johannes

this served only to remind the singer chants and folk-songs had given place

to the heroic songs of the minstrels (g.u.) of the 10th and 11th centuries. During the 12th century the Troubadours and Trouvères in France, and the Minnesinger and Meistersinger in Germany became prominent: many of them were of high rank, e.g. Count William of Poitiers (d. 1127), and Richard I. of England (d. 1127), others even more famous were Adam de la Hále (d. 1287), Heinrich von Meisen (d. 1318), and the immortal Hans Sachs (d. 1576). The historical importance of these classes and their influence on poetry and M. were enormous.

From the secular M. of the period sprang the true polyphonic schools which flourished during the 15th and 17th centuries. Apart from the valuable pioneer work of John Dunstable (d. 1453), Buichois (d. 1460), and Dufay (d. 1474), the first great result was the Netherland school, consisting chiefly of Jean d'Okeghem or Okenheim (d. 1495), and his famous pupils, Josquin des Près (d. 1521) and Pierre de la Rue (d. 1518), and Jacob Obrecht (d. 1505). The climax of the 16th-century Renaissance gave birth to the Venetian and Roman circles, the

Cyp. Netnermanders, and Chaudho Meruho (d. 1604); and (Roman) Jacob Arcadelt (d. 1560), and Danckerts (f. 1530-60), also a Netherlander. Although the prevailing influences in the Italian

of Giovanni Pierluigi da Palestrina (1526-94), although chiefly limited to church M., must be regarded as the highest expression of the ideals of his period; for, whilst revealing the same extreme contrapuntal skill, his works are more decoly sincere than the ingenious acrostics in which the Netherlanders were too prone to indulge. About this time a stimulus was also given to German church M. by the Lutheran Reformation, the most im-Reformation, composers being Martin Walther portant butter (d. 1546), Johann Walther (d. 1570), Franz Elers (d. 1590), and Orlandus de Lassus (1532-94), the Palestrina of Protestant M. English composers of the period were Tye (d. 1572) and Tallis (d. 1585), and later Morley (d. 1602), Byrd (d. 1623), and Gibbons (d. 1625), whose efforts lay chiefly in the direction of church M. and madrigals. By the 17th century repl. advenges had been made. tury such advances had been made in vocal and instrumental technique, in form and in chord experiment, that the conception of opera, which had been evolved from the incidental M. of the early miracle and morality!

Claudio Monteverde (1567-1643), and in 1637 the first opera house was opened at Venice. In Rome, the In Rome, the oratorio was established by Giacomo Carissimi (d. 1674) and Stradella (d. Carissimi (d. 1674) and Stradella (d. 1681). Opera flourished also in Naples and Rome, under Alessandro Scarlatti (d. 1724) and Stradella (d. 1681) respectively; in France, ballets and operas were produced by Cambert (d. 1677). Lully (d. 1687), and others; and song-plays became popular in Germany, the foremost composer being Schutz (d. 1672). In England, Henry Purcell (d. 1671) towered above his contemporaries with some above his contemporaries with some forty dramatic works. The beginning the 18th century saw thoroughly established, the chief centres of activity being Venice and Hamburg. It was in the 18th century, too, that instrumental M. was given a status of importance, although a considerable quantity of organ, virginal, and violin M. had already been written. But the technical advances of the previous century had prepared the way for Johann Sebastian Bach (1685-1750), essentially an organist, but composer also of much excellent violin and clavier M., besides being a master of choral composition, almost wholly of a devotional type. Bach not only represents the culminating point of the possibilities and ideals of polyphony; he is also the father of modern M., and it is from him that all subsequent developments in the art of M. are to be traced (see appended diagram). Thanks largely to him, a whole new world of keyboard M. was opened up by the general acceptance of 'equal temperament' (see TEM-PERAMENT) which rendered possible a greatly extended variety of modula-The exquisite sense of form tions. and balance, the supreme technical mastery, and the great extent and variety of his M. made rapid progress inevitable; and in the matter of choral writing this progress was immediately realised by his contemporary, Handel (1685-1759), in whom the German and Italian tendencies were united. writing possessed Handel's the lyric richness of the Venetians and the breadth and dignity of Bach, in opera and oratorio alike; and his mastery of big choral effects combined with the originality and richness of his harmony enabled him to obtain greater dramatic climaxes than had previously been realised. The new possibilities in instrumental M. that Bach had re-vealed were almost as promptly ex-plored by Haydn (1732-1809) and Mozart (1756-91). Haydn was the actual turning-point from polyphonic to homophonic form and treatment,

POSITIONS OF THE (Opera)	Monteverdo (1567- 1643) A. Scarlatti (1659- 1725)	Glück (1714-87)	(Opera) Weber (1786-1826) Meyerbeer 1864)
DIAGRAM SHOWING THE CHIEF LINES OF DEVELOPMENT OF MODERN MUSIC AND THE RELATIVE POSITIONS OF THE POLYPHONIC (Opera)	Carlestrina (1526-94) Carlestrini (1604-74) J.S. Bach (1685-1750)	2 5 5	Romantic Constraint Romantic Focal and Chord Chord

Wagner (1813-83) It. St auss (b. 1861) (Music Drama)

Rossini (1792-1868) Verdi (1813-1901) Puccini (b. 1858)

Elgar (b. 1857) Bantock (b. 1868)

Bantock (b. 1868)

Elgar (b. 1857) R. Strauss (b. 1864)

and with him the various 'classical', velopment from the 'lied' of Schuforms, e.g. the sonata and symphony, assumed the structures whose principles have since predominated in nearly all musical development. And his experiments in chamber M., showing as they did the full value of the string quartet, led to the remodelling of the orchestra; a totally new tonal balance was effected by introducing new instruments (e.g. the clarinet, and later the cello), reducing the propor-tion of wood-wind, and banishing the harpsichord or clavier. For these reforms, Mozart must receive acknowledgment no less than Haydn. Judging by his experiments in harmony and 'colour,' and by the perfection to which he developed the new forms (including the concerto, which he n) it has been

ot been for his ıld have done (1770-1827)

But, however much Beethoven's earliest M. may resemble Mozart's latest, his second and third period works, his sonatas, concertos, and chamber M., no less than his wonderful symphonies and overtures, cover an infinitely greater than those of any other composer, save perhaps Wagner (1813-83). If Beethoven is the point of transition from 'classical' to 'romantic'—the terms are unsatisfactory, but have a generally accepted significance-in instrumental M., the same must be said of Schubert (1797-1828) in song, and of C. M. von Weber (1786-1826) in opera. The Romantic movement (o.v.) of the early 19th century was a general artistic reaction against 'academism' and formalistic narrowness, and was at first restricted to Paris, then the centre of European culture—Hugo in literature, Delacroix in painting, and Berlioz (1803-69), Meyerbeer (1791-1864), and Chopin (1810-49) in M. Apart from the main body of Romantics, Cesar Franck (1822-90) was working in a calmer and more devotional yein; his work must be credited as the progenitor of such modern M. as that of Debussy (b. 1862) and others scarcely Bibliography.—Grove's Dict. of less famous, V. d'Indy, Charpentier, and Maurice Ravel. The rise of virtuosity gave a broader range for in Ency. Brit., 1911, especially that Chopin, Schumann, and Liszt (1811) on 'Music,' with its exhaustive tuosity gave a broader range for lack of the color of the symphonic form of Beethoven, the colour of Beethoven, the colou

bert to its present perfection under such composers as Granville Bantock (b. 1868) chiefly to Schumann, Brahms (1833-97), and Hugo Wolf (1860-1903). Related to the Romantic movement are the nationalist movements, e.g. the Russian, with the composers Tchaikovski (1840 - 93), one of the greatest modern symphonists, Borodin, Glazounov, and Rimski-Korsakov; the Scandinavian, with Grieg, Schytte, Sibelius, and Sinding; and the Bohemian, with Smetana and Dvorák. The purer classic traditions were preserved in Brahms, greatest modern symphonist; but in his songs and chamber M. he shows the influence of the Romantics, particularly Schumann. In the same line of succession comes Elgar (b. 1857). who with Richard Strauss is not only one of the greatest living masters of the orchestra, but with Granville Bantock gives the highest expression of the tradition of massive choral writing that originated with Handel. The works of Elgar and Strauss are probably the extreme expression, as yet, of absolute M.; futurists, such as Schönberg and Scriabine, are still regarded with suspicion. The Romantic movement made possible the fullest realisation of the operatic ideals outlined by Glück (1714-87), and with Wagner the perfected music drama was attained for the first time. A senarch bronch of opera uniting separate branch of opera, uniting Venetian tendencies with those of Weber, may be traced through Rossini (1792-1868) and minor composers like Bellini and Donizetti to posers like Bellini and Donzetti Wordi (1813-1901). The Italian and Wagnerian types find a mutual, if partial and imperfect, expression in the works of Puccini (b. 1858); whilst the actual Wagnerian tradition is being preserved by Strauss. Operas of a distinctive type have been produced in France by Debussy and Charpentier amongst others; in Russia, the ballet still usurus the Charpentier amongst others; in Russia, the ballet still usurps the operatic stage. See also articles on OPERA, SONG, HARMONY, ROMANTIC MOVEMENT, etc., and on the various composers.

cres. = crescendo, get gradually louder; | licensing authority have an absolute > or dim. = diminuendo, get graduor dim. =aiminuendo, get gradually softer; f=loud; ff=very loud; mf=fairly loud; p=soft; pp=very soft; mp=fairly soft. D.C. =repeat from the beginning of the movement (da capo); D.S. or :S:, dal segno=repeat from previous sign :S:; ten., or tenuto=hold, or sustain; sf. or sfz. = sforcando, or sforcato, accentuate; rit. = ritenuto, slacken immediately in proped in roll—sellentendo, slacken speed; rall. = rallentando, slacken gradually in speed; accel. = accelerando, quicken gradually; and so on. In full scores, the instruments are named in abbreviation, e.g. Fl. flauto or flute, Fag. = fagotto, Viol. or Vo. = violin, Va. = Viola, etc.

Musical Box, an instrument for producing music by mechanical means. It was invented in the middle of the 18th century by the Swiss, who fitted minute plugs on a metal cylinder so arranged that they would strike separate bars of steel and set them vibrating, and so produce different tones. The M. B., however, is being gradually superseded by the piano-

player and the gramophone.

Musical Glasses were a set of glasses of equal size, forming a musical instruor equal size, forming a musical instru-ment; they contained varying quanti-ties of water, the height of the water in any particular glass determining its note. The method of playing was by rubbing the moistened finger round the rim of the glasses. They are first mentioned in 1651, and were very popular in the 18th century, being played in London by Glück in 1746, whilst Mozart and Beethoven wrote music for them. As improved by Franklin in 1760, M. G. were often called a 'harmonica.

Music and Dancing Licences, Within the Metropolitan Police district (i.e. within 20 m. of the cities of London and Westminster, or in Middlesex), every house, room, garden, or other place used for music or dancing must be licensed for that purpose by the county council or county borough council within whose jurisdiction the place is situated. Elsewhere, licences are required only in those towns where section 51 of the Public Health Act, 1890, has been adopted, in which cases the licences are granted by the magistrate. The mere occasional use of a room for music and dancing, or a temporary use for dancing on the occasion of a festival, does not, but occasion of a festival, does not, but a skating rink where must is played assess show that to require a licence there must be something habitual about the use of the place for public music or dancing, though using the place once a month only would proplace once a month only would proplate on the month only would proplate on the month only included. These are best grown in the post trained on white frames or in the month only included. These are best grown in post trained on white frames or in the must be post trained on white frames or in the must be post trained on white frames or in the month on the m

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The 'music hall, or Music Halls. variety theatre' is a development of the 'saloon theatres,' which existed in London in 1830-40. These were These were attached to taverns, and were very popular amongst the middle and lower classes who liked to mix their dramatic amusements with smoking and light refreshments. They gave dramatic performances as well as variety entertainments, but were restricted by the 'patent rights' which were ultimately abolished by a number of distinguished literary men, among whom were Charles Dickens, Sir Edward Bulwer-Lytton, and Sir Thomas Noon Talfourd, After this the saloons gradually improved in character, and the M. H. of to-day began to appear, the first being the Canterbury, which under the direction of Charles Morton cultivated the best class music; indeed, 'An Operatic Selection' of Gounod's Faust was first performed in England here. first performed in England here. Morton also opened the Oxford, and other halls soon followed, their popularity being assured by the cheap prices and physical comforts which they afforded. But the advance in the M LI protice the the M. H. excited the jealousy of the theatre, and matters came to a crisis in 1865 when an ambitious ballet was produced at the Alhambra recently founded in Leicester Square. The Alhambra was prosecuted for in-Alhambra was prosecuted for infringing the Stage-play Act, and a long, unsatisfactory trial followed, with the result that the matter was taken up by parliament, and the M. H. were granted the privilege of producing ballets, vaudevilles, pantomimes, and other light pieces. Since then the character of the M. H. has still further improved, and its prostill further improved, and its progress continues to be rapid. In London alone the capital invested aondon alone the capital invested in these enterprises amounts to £5,000,000, and about 80,000 people are employed, and 25,000,000 entertained. Some of the chief halfs are The Alhambra, The Coliseum, The Empire, The London Hippodrome, The Pavilion, The Palladium, and The Tivoli.

Musk (Minutes magazing) a

Musk (Mimulus moschatus), small perennial plant of the order Scrophulariaceæ, with hairy leaves and bright yellow flowers. Some fine

deer, 20 in. in height, with large ears, long legs, and coarse, goat-like hair, which varies from a pale grey to a dark brown, spotted with tints of a lighter colour. It is of special interest to zoologists in that it possesses certain intermediate characters between the antelopes and the deer, and it is now placed in a special subfamily, Moschine, of the order Cervide. It is unique among deer in possessing a gall bladder, which is found in most of the antelopes. Antlers and horns are absent in both sexes, but, like the Muntjac, the male has the upper canine teeth developed into projecting tusks 3 in. or more long. It is a solitary animal, feeding on leaves and flowers of forest shrubs. It is abnormally hardy and sure-footed on the most dangerous ground, being much assisted by the specialised de-velopment of the hoofs. Musk occurs as a resinous substance in a gland on the abdomen of the male, and the animals are mercilessly persecuted by hunters. The odour is probably the most penetrating and powerful in nature, and is said to cause hemorrhage in th the gland,

and mouth for exportation, are known as ' pods.' When they reach Europe they are commonly found be heavily to

adulterated.

Muskegon, a city of Michigan, U.S.A., and cap. of co. of same name, on the Muskegon R., 38 m. N.W. of Grand Rapids. Has foundries, papermills, and machine-shops, and manufactures planes, boats, furniture, steam-engines, boilers, refrigerators, etc. Pop. (1910) 24,062. Musket, see FIREARMS.

Muskerry, a military term applied to that branch of work which deals with the theory and practice and regulations concerning small arms: the rifle, carbine, and revolver, and machine guns. The duties in regard to M., from efficiency of the command down to inspection and care of arms, returns of ammunition, etc., are assigned to the various officers. The training in the use of weapons is The training in the use of weapons is natural gas and oil. There are oil graded from recruit drill, through refineries, oil and flour mills, etc. various range and field practices, to Pop. (1910) 25,278.

small animal about the size of a roc- squadron practice, and deals with the tactical use of small-arms. A modern development has been the introduction of miniature range firing with the use of the Morris tube.

> commissioned officers to act as instructors. Qualification at the school is necessary for sergeants or lance-sergeants before ranking as sergeantinstructors. There is a commandant in charge, with a chief instructor, an experimental officer, a Royal Engineer officer, two instructors, four assistant instructors, quarter-master, and medical officer. The business of and medical officer. The business of the school is also to improve the science of musketry in all branches, to experiment, and to keep abreast of all foreign weapons and methods; and includes all designs, etc., for equip-ment of ranges. There are schools at Bloemfontein, Orange River Colony: and in India.

> Musk Glands. The chief source of the musk of commerce is the male Musk deer (Moschus moschiferus) of Central Asia (q.v.). A number of rodents (e.g. the Musk rat), and at

also give rise to the odour.

Muskhogeans, or Creeks. American Indian stock, whose name is derived from Muskogee, the principal tribe of the Creek confederacy. Their territory originally comprised the greater part of the Gulf states E. of Mississippi, extending N. to the Tennessee R. The history of the stock, which includes the Choctaws, Chickasaws, Seminoles, and others, begins in 1527, when the Spaniards landed for the first time on the Gulf coast. Most of the surviving members are settled on reservations in Indian territory. Sec Jour, Antiquilies of the Southern Indians.

Muskogee, a city, the co. scat of Muskogee co., Oklahoma, U.S.A., 130 m. E.N.E. of Oklahoma City. It is the centre of an agricultural and stock-raising region, and yields natural gas and oil. There are oil

but less amounts. very varied, being th of range practice towa: ments of M. in actu includes company,

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Musk Ox, or Musk Sheep (Ovibos he began the manufacture of chemical moschatus), an animal which, as the products for commercial purposes, generic name implies, has features in common with the sheep and the ox. It is about the size of domestic cattle, and is covered with a dense coat of very long brown hair. The horns of the bulls meet in the middle line of the forehead. The legs are short, but the feet have a large spread, with a footprint much like a reindeer's, and the animals are capable of some speed. They are social in habit, and are now confined to Arcic America, though, at a remote period, they have had a very extensive range, which in-cluded Britain. At some seasons of the year they exhale a strong odour of musk, and this pervades the flesh, although it is well flavoured.

Musk Plants. The odour of musk occurs in a number of plants besides the common musk. The musk mallow (Malva moschata) emits the odour rubbed, especially in weather. The musk stork's bill (Erodium moschatum) smells strongly of it if handled; but the moschatel (Adoxa moschatellina) diffuses it from all parts of the plant except when bruised. The musk thistle (Cardinus nutans) has a powerful musky scent. The musk orchis (Herminium monorchis) smells like musk at night. melon (Cucurbita moschata), the musk rose, and the musk tree (Eurybia argophylla) are among many other plants, etc., which give rise to the odour.

Musk Rat. a name given to a number of rodents, and also to one inwhich diffuse a musky sectivore, odour. It most commonly indicates the Musquash (Fiber zibethicus). It is specialised for an aquatic life, the toes being webbed, and the long, almost naked tail being scaly and flattened laterally. Though inclined to be omnivorous, it is chiefly vegetaring the second of the lateral second tarian, and stores up food for the winter by plastering it with mud into curious structures like havcocks. The musk is secreted by both sexes in a large gland in the groin.

Muslin, a fine cotton cloth, said to have been first made at Mosul, a city of Mesopotamia. It resembles gauze in appearance, except that it is woven plain without any twisting of the warp threads on the weft. Some very fine specimens have been produced in India, the Arni M. of the Madras presidency, and the Dacca M., made at Dacca, in Bengal, being especially famous. The material is now made in Europe, and numerous varieties are produced. It is used for dresses, curtains, blinds, cushion-covers, etc. Muspratt, James (1793-1886),

British manufacturing chemist, was born at Dublin. After a stormy youth, has extensive market-gardens, and

products for commercial purposes, which occupied him until his retirement in 1857. The reduction of the salt tax in 1823 enabled him to make alkali from common salt by His works were Leblanc process. situated in Liverpool, Widnes, Flint, and (from 1830-50) Newton. His son, James Sheridan M. (1821-71), was also a distinguished chemist.

Musquash, see Musk Rat. Mussænda, a genus of evergreen shrubs or herbaceous plants (order Rubiaceæ) bearing corymbs of red or yellow flowers. M. crythrophylla has crimson bracts. Some species have

medicinal value.

Mussafia, Adolf (1835 – 1905), a Romance philologist, born at Spalato in Dalmatia. From 1855 he was professor of Italian, and from 1860 professor of Romance at the university of Vienna. His best work was done in the early Italian dialects, although no department of Romance philology was unexplored by him. M. A. may be regarded as one of the founders of the serious study of the Italian dialects. Many of the publications of Adolf appeared in the Transactions of the Vienna Academy.

Musschenbroek, Pieter van (1692-1761), a Dutch natural philosopher, born at Leyden. After practising as a doctor for four years, in 1719 he was appointed professor of mathematics and philosophy at Duisburg. His works include: Institutiones Physica. 1748: Compendium Physica Experimentalis, 1762; Introductio ad Philosophian Naturalem, 1726; Physicæ Experimentales et Geometricæ Dis-

sertationes, 1729.

Mussel, a name for various forms of molluse, but most commonly applied to the numerous widely distributed Mytilidæ. The common M. (Mytilus edulis), which forms the wedge-shaped shell, is very abundant in British estuaries. While young, the Ms. are capable of moving about with the aid of the small brown foot, but the and of the small prown foot, but later they attach themselves to rocks and to one another by spinning a bundle of tough threads (byssus). Though they are even more liable than oysters to pollution, they are important articles of diet in many districts, but they are utilised in greater numbers as bait in deep sea feebonies. The fresh water Ma The fresh - water fisheries. (Unionidae) are also numerous and widely distributed. The pearl M. occurs chiefly in Scottish rivers.

Musselburgh, a tn. and parl. burgh of Midlothian, Scotland, on the Firth of Forth, at the mouth of the Esk, 5½ m. E. of Edinburgh, of which it has become practically a suburb. M.

manufs. nets, twine, bricks, tiles, pottery, etc. There are also papermills, breweries, tanneries, and saltworks. The town is celebrated for its golf links. Together with Leith and Portobello, M. forms the Leith burghs, and returns one member to parliament. Pop. (1911) 15,938.

Musset, Louis Charles Alfred de (1810-57), a French poet, novelist, and playwright, born in Paris. In 1829 he met with great success, and at the same time with much hostile the same time with much nostile criticism, through his publication of Contes d'Espagne et d'Italic. In 1830 his piece, La Nuit Vénitienne, was produced at the Odéon by Harel, but was not well received. In 1832 he left the Cénacle, and in the following year published Un Spectacle dans un Fautcuil, which was in so far successful that he was asked to contribute to the Revue de deux Mondes. For this he

was his famous poem, Rolla, written at the beginning of his liaison with George Sand, whom he had met in the summer of 1833. In December of that year he left with her for Italy, and returned alone shortly afterwards broken in health and in spirit. worst side of his moral character was brought out by his sufferings. George Sand gave her account of the catastrophe in a novel, Elle et Lui, to which trophe in a novel, Elle et Lui, to which De Musset's brother, Paul, replied in his Lui et Elle. His troubles did not prevent De M. from continuing to write. In 1835 he produced Lucie, Le Chandelier, La Loi sur la Presse, La Nuil de Décembre, and, more important, Confession d'un Enfant du Siècle, which is of great interest in revealing the poet's complex character. In 1838 he was appointed librarien of the Home Office, and two librarian of the Home Office, and two years later his health began to give way. Meanwhile he had written Nuit d'août, Lettre à Lamartine, the comedy Il ne faut jure de rien (1836), Un Caprice, and some of the Nouvelle (1837), and the fragment Le Poèle déchu (1889). In 1840 he wrote A trente ans, and in the following year the spirited poem Le Rhin allemand. the spirited poem Le Rhin allemand. His latter years were comparatively unproductive, his works including Il faut qu'une Porte soit ouverte ou fermée (1845), Bettine (1849), and Casmosine (1851). He was elected to the Académie in 1852, and died of heart disease five years later. His biography was written by Paul de M. A complete edition of his works (in 10 vols.) was published by Lemerre in 1876. See studies by C. F. Oliphant. His 1876. See studies by C. F. Oliphant, 1890; Arvède Barine (Mme. Vincens), 1893; Correspondance de George Sand et d'Alfred de Musset, 1904; and

Spoelberch de Loverjoul's La Véritable Histoire d'Elle et Lui, 1897.

Mussooree, a tn. and sanatorium of the United Provinces, British India, 130 m. N.N. of Rampur. With Landaur, which adjoins it, it

forms a convalescent station for European troops. Pop. 5000.

Mustang, the wild horse of the Texas prairies. It is descended from early Spanish introductions, and is extraordinarily hardy and capable of isometable of the control of

of immense labour when broken in. Mustard. The two Ms. of importance are black, brown, or red M. (Brassica or Sinapis nigra) and white M. (B. or S. alba). It is the former which is grown in Cambridgeshire and adjoining counties for the production of seeds, which are ground, and after removal of the dark-coloured testas are used as a condiment or are converted into M. oil. The white M. seedlings are commonly used in salads, and for the purpose should be sown three days after cress, with which it is usually eaten.

Muswellbrook, a tn. of co. Durham, New South Wales, 85 m. S. of Tam-

worth. Pop. 1700.

Mutiny, Indian, see India—History. Mutiny Act. The first Mutiny Act, that of 1689, made it possible to keep a standing army in time of peace, not only by sanctioning its existence for the first time in England, but by providing for the punishment of mutiny and desertion with death and emand desertion with death and empowering the crown to commission courts-martial to deal with those offences in time of peace. Since 1689, parliament passed the Mutiny Act annually until 1881, when it was finally superseded and merged in the Army Act of that year, an Act which is also annually renewed. The Jacobite Rebellion of 1715 made it necessary to increase the stringency of the crown's disciplinary powers, and accordingly the Mutiny Act of 1715 authorised the crown to formulate Articles of War to regulate generally the forces in the United Kingdom in time of peace. Prior to that year, the crown could only issue such articles in times of war or rebellion. Among other things, the later Mutiny Acts other things, the later Mutiny Acts provided for the punishment by courts-martial of persons guilty of embezzling military or naval stores. Mutrah, Matrah, or Matarah, a scaport of Arabia on the Gulf of Oman, forming a suburb of Muscat, with trade in dates and other fruits.

Pop. 14,000.

Mutterstadt, a com. and tn. of Bayaria, Germany, in the Rhine Palatinate, 6 m. S.W. of Mannheim. Pop. 5093.

Sand Muttra, or Muthura, the name of a and dist. and tn. of the United Provinces,

devotion. Pop. 60,000.

Muzaffargarh, a dist. of the Punjab, British India, covering an area of 3422 sq. m. Wheat, rice, pulse, and indigo are the chief crops, and large herds of camels graze upon the sandy Pop. about 405,656. chief town bears the same name, and

lies on the r. b. of the Chenab, 20 m.

S.W. of Multan. Pop. 4000. Muzaffarnagar, the name of a dist. and tn. of India, in the Meerut div. of the Central Provinces. The district is irrigated by four canals, the chief crops being wheat, pulse, cotton, and sugar cane. Area, 1666 sq. m. Pop. 880,000. The town, 30 m. N. of manufs. blankets. Pop. Meerut,

25,000.

Muzaffarpur, the name of a dist. and tn. of India in the Patna div. of The district yields indigo, opium, and rice. Area 3035 sq. m. Pop. 2,750,000. The town, on the r. b. of the Little Gandak R., is 37 m. N.E. of Patna. Pop. (mostly Hindus) 46,000.

Muziano, Girolamo (1528-1792), an Italian painter, born at Aquafredda, and studied under Romanius. It was not until 1550, when he went to Rome, that he began to be noticed. His most famous work is 'The Resurrection of Lazarus,' which was finally placed in the Quirinal Palace. The large fortune which he left was used to aid in founding the Academy of St. Luke at Rome, where he died.

Muztagh-Ata, the highest peak of Muziagn-Ata, the Inglest peak of the Kashgar Mts., part of the Pamirs (q.v.) in Turkestan. It is situated to the S. of Little Karakul Lake, in lat. 38° 20′ N. and 75° 16′ E., and rises to a height of about 25,700 ft. It is considered holy by the Kirghiz, and was partly ascended in Sven Hedin. 1894

Mweru, sec Mœro, Lake.

Myasthenia Gravis, a disease affecting the muscular tissues, characterised by rapid fatigue on exertion; it may be local or widespread, and is unaccompanied by pain, except that experienced in extreme fatigue. It is not difficult to recognise when pronounced, showing itself generally in drooping and lassitude of the limbs and trunk; there is a drooping of the eyelids, and a vacant appearance in the face due to the absence of muscular movements of expression; the interference with the muscles of the larynx and throat gives rise to indistinct articulation of speech, and a general nasal sound, while difficulty is experienced in swallowing; the jaws

India. The district has an area of dejected appearance. In many cases 1445 sq. m., and a pop. of 765,000. death has ensued from sudden as—The town lies on the r. b. of the physia when the respiratory muscles Jumna, and is the centre of Hindu have been affected. There is no muscular atrophy, nor have any post mortem changes been observed; there is no specific remedy. Of late years the subject has engaged increasing attention, and it is evident that in the past it has escaped diagnosis; it is more widespread than was recognised: very many cases being attributed to hysteria. The disease is usually hidden in its early stages, proceeds gradually, but with definite stages of marked intensity, and a large proportion of the cases end in death. It is, however, certainly rare. Its causes. no doubt, will be found rather in the nervous centres than in the muscles th .

Lc

of Rangoon. Pop. of tn. 5000. Area of dist. 3005 sq. m. Pop. 300,000. Mycenæ, one of the oldest cities of ancient Greece, was situated in a very strong position on the hill overlooking the northern extremity of the Argive plain. In 468 B.C. M. was dismantled by the people of its ancient enemy Argos, and was never rebuilt. In the time of Pausanias the ruins consisted of a great part of the walls, with 'the Lions. from above it. said t opes; the fountain called Perseia; and the Atreus subterraneous buildings of and his sons. The discoveries which

have been made here have greatly increased the knowledge of Greek art, especially pottery. The museum at

Athens contains many specimens.

Mycenæan Civilisation. This general term was first applied to the prehistoric civilisation discovered at Mycenæ, Troy, and Tiryns by Heinrich Schlisson, in 1876. Sixos then rich Schliemann in 1876. Since then so much has been discovered and laid bare by archæologists that the word Mycenean is now scarcely appropriate, for the main source of this civilisation apparently radiated from Crete, and therefore the present accepted name of 'Ægean civilisa-tion 'embraces more fully the breadth and de

sang c with

battles and heroic deeds which until the year 1870 had been merely myths and glorious legends. In that year Schliemann set out to find the site of Troy, and to prove that Homer had some foundation for his historic poems. No site in the Troad can really be placed accurately with Homer's Troy, but the ruinous sexperienced in swallowing; the jaws mounds of Hissarlik, which have been droop, and the whole head has a thoroughly explored, first by Schlie420

mann and continued after Schlie-mann's death by Dr. W. Dörpfeld, sleeping apartments, and living-rooms, are accepted as the original site of A frieze of alabaster carved in famous Ilium. Schliemann dug with rosettes and inlaid with vivid blue famous Ilium. Schliemann dug with faith and cuthusiasm, but without the scientific skill of the modern archeologist. He reached his second stratum in 1873 and revealed a burnt city, with treasures of gold and silver and bronze that suddenly aroused the interest of all students of ancient history. This find assisted in proving that the Homeric legend of Troy was not founded only on myth, but that great and wonderful civilisation flourished at least 1500 years before the starting point of Greek history as given by Grote and others. Schliemann next excavated Mycenæ. Here he found a bronze age un-Hellenic in character, and differing from that of Troy. His belief that the tomb of Agamemnon lay within the gates of the citadel caused him to dig a pit some 100 ft. sq., about 40 ft. from the great 'Lion gate'; stone slabs were first unearthed, then a circular altar with steles carved in relief. Three feet below the altar lay the first of the five shaft graves, hewn from the rock. The roofs had collapsed, and buried with the bodies beneath the débris was a remarkable treasure. head-bands, breast-pieces, rings, pendants, daggers, and sword fact that the neck to which the hilts, also objects of ivory, amber, handles join is closed, or false, and silver, and bronze; sixty swords and another neck is fashioned farther daggers were found in one grave alone. Schliemann was convinced that these were the actual graves seen by Pausanias, containing Agamemnon and his household. Whether that is true or not we cannot prove; what was proved was the excellence of the metal work and other treasures, showing a highly advanced civilisation belonging to a wealthy prehistoric people. The beehive tombs were explored next, the largest being the well-known Treasury of Atreus; it was strongly built, with a passage leading to a high vaulted chamber shaped like a bee-The door to the chamber was 17 ft. high, bordered with columns carrying a cornice masked with red porphyry, with spiral decorations enriched with bronze and coloured marble ornaments; rich decorations were visible everywhere showing a high excellence in art. A tomb not far from the treasury of Atreus that Schliemann explored and believed to be the grave of Clytemnestra, showed beautiful designs in green marbles. coloured alabaster and From Mycense he went to Orchomenos in Bœotia, and here other exnos in Bœoula, and heard rich art cavations showed the same rich art and good Egyptian work laid

paste was found, also excellent fresco painting. After Schliemann's death Dörpfeld and others continued his work. Mycenæ was still considered to be the chief home of this great culture until Crete was explored. Crete disclosed a period of civilisation belonging legitimately to the whole Ægean, scarcely less ancient than that of Egypt. The untiring work of Sir Arthur Evans has discovered for us ns of art and

o the Minoan excavations in Crete have been at Cnossus, Tylissus, and Hagia Triada (see CRETE). It was here that this Ægean civilisation apparently found its fountain head. For the general evidence of this culture there are ruins of palaces, villas, houses, and beehive graves, the decorations and architectural are -- columns, features friezes, mouldings, various mural paintings, and mosaic inlay, etc. Vessels have been found, from tiny pots to huge stone jars, and quantities of pottery. One of the general features of Mycenean pottery is the stirrup-cup or false-necked vase, so-called from the away from the handles for conveni-ence in occur whereve been pical brought pottery Minoan III. (Crete). Many fragments of Cretan pottery have been dis-covered in Egypt, and it seems prob-able that a considerable trade may have been carried on between the countries. The two famous Vaphio cups discovered in 1889 by Dr. Tsorentas were found in a beehive tomb; they were among many beautiful articles of gold, silver, bronze, crystal, etc. The cups were of gold decorated in relief with scenes depicting the capture of bulls; they belong to the Late Minoan I. period, and represent a triumph of ancient art. Thrones and seats and tables in stone and terra-cotta have been found, objects of art in ivory and precious metals. Small sculptured works, but no large ones, jewellery of various kinds, weapons in metals, only a few later ones being of iron, engraved gems and gem impressions. Tombs of pit or dome-shaped style, paved roadways with bridges and an excellent system of drainage, and, lastly, two main systems of script which as yet remain undeciphered. What their religion was we do not yet know, it

in nature, rocks, pillars, trees, etc., and the symbol of the double axe. Apparently a goddess was worshipped, to whom doves and serpents were sacred. The dead were not burnt, but buried with great honour, apparently with the hope of a future life; there was possibly a hero-cult of the dead. The social organisation as far as we can gather at present, indicates a considerable body of law, and a Tradition luxurious ruling class. asserts that Minos was a great lawgiver, and that he possessed a great navy which guarded his commerce with other countries. From the finds of Ægean pottery and various objects in other lands it would seem probable that they traded with Egypt and Northern Africa, with Sicily and Italy, and even as far as Spain. The total duration of this great civilisa-Egypt and Sicily and tion covers at the least 3000 years. Apparently with the use of iron the Agean culture ended, about 1000 B.C. What people destroyed this great civilisation, or whence they came, we have yet to prove, possibly the tribes known to Homer as the Dorians were the destroyers. If the scripts are ever deciphered, we may learn much; until then and until further discoveries are made we can only theorise.

Myconus, Mykonos, Miconi, or Múxoros, an island of the Grecian Archipelago, one of the Cyclades in the Ægean Sea, 5 m. from Tinos. Area 40 sq. m. The tn. of M. is a seaport on the W. coast. Pop. 4600.

Myddelton, Sir Hugh, see MIDDLE-

TON. Mydriasis, an abnormal condition of the eye. The pupil is more or less permanently dilated or lacks to a large degree its power of accommo-dation when exposed to light of vary-ing intensity. It is prevalent in certain diseases, and is also one of the

effects of certain drugs, e.g. belladonna and its derivatives.

Myelitis, inflammation of the spinal cord: osteomyelitis is inflammation of bone-marrow. If the grey matter of the spinal cord is affected, the disease is called poliomyelitis: if the white matter, leucomyelitis. In acute M. the nervous tissue undergoes degenera-

tion, but may chronic M. the hardened and : connective tis

vary according to the seat of the goddess, and her worship had features Hyperæsthesia, or excessive sensibility, is at first apparent about the level of the lesion; but later sensi-bility is numbed, and the parts below the lesion pass into paralysis. The progress of the chronic form is slow; little can be done except to look after

points to a divine principle, resident | the comfort of the patient, and he may linger for years or be cut off by some intercurrent disease. The cause of M. may be injury or secondary inflammation from meningitis. Many cases present a syphilitic history

Myers, Frederick William Henry (1843-1901), an English essayist, poet. and author, born at Keswick. He was appointed classical lecturer at Cambridge, and in 1872 a school inspector under the Education Department. After much inquiry and discussion, After much inquiry and discussion, M. was the leading spirit, with H. Sidgwick, R. Hodgson, R. Gurney, and F. Podmore, in founding the Society for Psychical Research in 1882. Phantasms of the Living, 1886, was the result of some of his labours in sifting and collating the proceedings of the society. His most considerable work in that sphere, however, was the posthumous Human Personality and its survival of bodily death (2 vols. 1903), which, although incomplete and tentative, was the first attempt to connect the phenomena of hypnotism, mediumship, trances, hallucinations, etc., as belonging to one and the same field of inquiry. The poetical works of M. are not remarkable, but his prose essays are delightful both in style and matter. His other works include: Thoughts, 1873; Essays Catholic Classical and Modern, 1883 and a Future Life, 1893, etc. 1883 : Science

Mygale, a genus of spiders, the species of which have their eyes placed closely together at the anterior extremity of the thorax. They spin their webs in the form of tubes, in which they reside concealed in holes in the ground, or under stones,

or the bark of trees.

Myingyan, a dist. and tn. of Upper Burma, India, on the Irawadi, 36 m. from Pagan. Lacquer ware is manufactured. Area of dist. 3139 sq. m. Pop. (dist.) 360,000; (tn.) 17,000.

Myitkyina, the most northerly dist.

of Upper Burma, India, Mandalay div., 10,640 sq. m. in area. Indawgyi Lake is in the S.W. The tn. is the limit of navigation on the Irawadi. Pop. 70,000.

Mylau, a tn. of Saxony, Germany 10 m. from Plauen, with an old castle. Pop. 7946. tta was the name of a goddess

ylonian and Assyrian myth-mentioned in Herodotus and She was a kind of nature

allied to that of Aphrodite and

Ashtoreth.

Mylne, Robert (1734-1811), a Scottish architect and surveyor, born at Edinburgh. He was the last of the notable architects who were also engineers; in addition to building

many country seats, etc., he also carried out many engineering pro- of arthropods which comprises the jects. He was a member of the Chilopoda or centipedes, and the academies of Florence and Bologna; a fellow of the Royal Society; and from 1766 to his death was the sur-

veyor to St. Paul's.

Mynster, Jacob Peder (1775-1854), a Danish bishop and theologian, born at Copenhagen. In 1834 he was appointed bishop of Zealand, and during the period in which he occupied this host he steadily opposed the move-ment started by Grundtvig. Being unsuccessful in this, he gradually ceased the struggle and devoted himself to literature. His best known work is Thoughts on Christian Dogma (German translation, 1840).

Mynyddislwyn, a par. of Monmouth, Wales, 7 m. S.W. of Pontypool, with chemical works, collieries, and iron and tin plate works. Pop. (1911)

9982.

Myograph, an instrument for determining the effect of stimulus on muscular fibre. By a suitable arrangement the movement of the fibre is transmitted by a needle to a blackened plate swinging on a pendulum. tuning-fork vibrating two to three hundred times per second traces on the same plate a time curve, whereby the duration of each phase of move-

ment is determined.

Myopia, or Short-sight, a defect in vision due to a faulty structure of the eye. Parallel rays of light are brought to a focus in front of the retina owing to an excessive length of the eye or the surface of the cornea and the crystalline lens are too convex. Thus an indistinct image is thrown on the retina. by the use of being concave : lenses is adjus ıys are focussec dinary vision.

Myos-Hormos (modern Abu Sar Kibli), an ancient seaport of el-Kibli), Egypt on the Red Sea, almost opposite its bifurcation into the Gulf of Suez and Akabah. It was once an emporium of the trade between emporium of the Egypt and India.

Myosis, a condition of the eye in which the pupil is abnormally con-tracted and lacks its power of ac-commodation. It may be produced

by use of certain drugs, e.g. opium.

Myra, a ruined tn. of the S. coast
of Lycia, Asia Minor, 62 m. S.W. of Adalia, with interesting remains.

Myrcia, a genus of evergreen Myrcia, a genus of evergreen shrubs and trees (order Myrtaceæ), bearing axillary peduncles of small white flowers, which are followed in some cases by edible fruits. M. amplexicaulis is a handsome shrub sometimes grown in the stovehouse. la

Myriopoda, or Myriapoda, the class or cylindrical rous, though, cf

not so numerous as the course, popular names suggest. In their isternal anatomy they resemble the Insecta, with which they have such other features in common as respiration by tracheal tubes and the posses: sion of two antennæ on the head, but the segmented body exhibits no distinction between the thorax and the abdomen, while wings are always absent. Their range is very extensive and they live in dark places, as under stones, heaps of leaves, masonry, and Some posses the bark of trees. Spowers of luminosity. The centipedes are always flattened and are characterised by a single pair of legs to each segment, the first pair are inflicting of wounds: they are all carnivorous. Millipedes live on vegetation, and apparently have two pairs of leg-attached to each segment, but the

the bodies are round. according to Myrmidones were, Greek legend, an Achean race which inhabited Phthiotis in Thessaliuhabited from an name is derived Their ancestor, the son of Eurymedusa by Zeus, in the form of an ant, or from the legend of the repeopling of Ægina with ants, changed by Zeus into men. In English, a M. is used for a ruthless subordinate. See Nicd,

segments are not perfectly separated:

ii., 68; Strabo, viii., 375, ix., 433. Myrobalan Plum, or Prunus cerasi-fera, a hardy shrub or tree of exceptionally quick growth, much en-ployed as a hedge plant. Its rellor-fleshed fruits are very delicately flavoured, but are rarely produced, as the bloom appears in February of March, and, unless protection can be given, frosts prevent the fruit setting.

Myron, a Greek sculptor of the 5th century B.C., born at Eleuthers, on the borders of Bootia and Attica. He worked almost exclusively in bronze, and was a late contemporary of Pheidias, as he made statues of the athletes Timanthes (456) and Lycinus (448). There is a cast of a 'Discobolus' of his with the head on the vergor way to the Title 18 the Pheidian Charles of th

the wrong way in the British Museum.
Myronides, an Athenian general of the 5th century B.C. In 459 he repulsed two Corinthian attacks on victory the Megara, and by the over Enophyta (456 B.C.) Spartans he obtained the submission of Bœotia (save Thebes), Phocis, and

Locris. Myrrhis, Myrrh, or Sweet Cicely, small genus of umbelliferous

sed as a pot herb and in salads.

Myrtle, or Myrtus, a genus of rubs or trees with white fragrant flowers and ornamental aves, which are also fragrant. The mmon M. (M. communis) and its amerous varieties are hardy in mild celtered positions. Its leaves are stilled to yield the perfume Eau

copled by the Mysi, who were oly akin to the Nybians arians. The northern portion by being it, alled Mysia Minor, the sou a tagistic is to ysia Major. The chief towns were attain union with the divine, and life

ergamum and Cyzicus.

ino m. s.u. of Bresiau. There are inc works, flax-spinning mil' soal mines near. Pop. 17,838.

Mysore: 1. A native st India, surrounded by the I'. Presidency except in the N.W., where it is bordered by that of Bombay. It is divided into two regions—the Maland of bill counter. egions-the Malnad, or hill country, in the W., i.e. the country bordering in the Western Ghats, and the Maidan, or open country, occupying the greater part of the surface. Chief rivers are the Kistna, Cauvery, and the Pennar, all unnavigable, and only useful for irrigation purposes. M. suffers less from famine (except 1876-17) than any other internal tract of The chief products include silk, coffee, sandalwood, gold, and vory, but rice, oilseeds, sugar cane, otton, cocoanut palms, and all sorts of grain (especially ragi ') are cultivated. Area 29,433 sq. m. Pop. 5,806,300 (chiefly Hindus). 2. Cap. of the above state, situated 10 m. S.W. of Seringapatam. It contains the old palace of the maharaja, an example of Hindu architecture, partly destroyed by fire in 1877. Government house was originally built by Wellesley (Duke of Wellington). Pop. 67,500.

Mystagogue (Gk. who initiates into person who in the system supervised t

instruction as to the ceremonial to

be carried through.

Mysticism, a belief in spiritual apprehensions of truths beyond the understanding, can hardly be said to be either a philosophy or a doctrine. It may be said to be a doctrine. in religious feeling, a Mytens (or Moytens), Daniel Con religious feeling, a Mytens (or Moytens), Daniel Con religious feeling, a Dutch portrait painter, born tendency temper, or an atmosphere.

rennial plants. M. odorata, a tall, starting point in M., and its goal, is omatic plant with large tri-pinnate that unity underlies diversity. So aves and umbels of white flowers, M. has been defined as an 'attitude British, and was formerly much of mind founded upon an intuitive or of mind founded upon an intuitive or experienced conviction of unity, of oneness, of alikeness in all things.' M. leads to a belief that all things are manifestations of the divine life. and that the spirit is the only eternal thing, and, further, since unity underlies all, then man has some share of the nature of God, and through this Godlike part of him can apprehend God; for as through the intellect we Mysia, in ancient geography, was apprehend material things, so through district in the N.W. of Asia Minor, the soul can we apprehend the

iot a part of ve can only

becomes one long aspiration, and Myslowitz, a tn. of Silesia prov., reality or truth ever and ever deepens Prussia, on the frontier of Poland, and expands. So M. depends upon 116 m. S.E. of Breslau. There are feeling, M. appears in Buddhism,

t be said to have surope in Plate. the founder of

s the first great Then came the European mystic. Christian mystics of the middle ages, headed by S'

Syrian monk to Dionysius the great Iris

Erigena, who translated Dionysius into Latin from the Greek. In the 12th and 13th centuries may be mentioned Bernard of Clairvaux, Richard of St. Victor, near Paris, and Bonaventura. In the 14th century, Richard Rolle, Walter Hilton, and Julian of Norwich, John of Chur, and Thomas à Kempis. Later we find Paracelsus, Bruno, Campanon.
Boehme, Schelling, and Swedenborg.
In England we have the Cambridge
Platonists, including Henry More and John Smith, and later William Law, Blake, and Coventry Patmore. Among more recent writers it is only necessary to mention Burke, Coleridge, Wordsworth, Shelley, Keats, Rossetti, the Brownings, Meredith, and George Francis George Mercuton, and Transcripton Tro-day among the most prominent are W. B. Yeats and Transcripton Transcrip

ige, Christian Mysticism of English Mystics; of those seeking initiation, and gave R. Nicholson, Mysticism in Islam;

Evelyn Underhill, Mysticism and The Myslic Way, and other works by the same authoress. See also CAB-BALA, QUIETISM, ROSICRUCIANISM, THEOSOPHY, and the articles on the various religions and on the persons mentioned above.

at the Hague, and came to England was but a disease of language, and and became portrait painter to Charles I. When Van Dyck was made the king's principal portrait painter M. wished to go, but was prevailed upon to stay by the king until about 1630, when he returned to Holland. He painted portraits of many notable persons, including Charles I., the persons, including Charles 1., the Duke of Portland, the Earl of Craven,

Mytho, or Mito, a port of Frer .-Indo-China at the mouth of Mekong R., 58 m. S.S.W. of Saig Pop. 23,000.

Mytholmroyd, a tn. of the W. Riding of Yorkshire, England, on the Calder, 5 m. W. of Halifax. Cotton spinning and weaving are carried on. Pop. (1911) 4152.

Mythology, that division of tradi-tion which deals with the acts and deeds of gods and other supernatural beings. It is not, as generally seems to be supposed, necessarily confined to an early state of society, for, in the shape of folk-lore it still permeates our customs to a surprising degree. One of the first questions which occurred to thinking men when the general restlessness of the ancient world was past, and humanity found time for the repose of study, was, Whence came the gods, and how are the tales concerning them to be explained? That great question is still in process of being answered, and although the study of M. has by means of analogy and the comparison of the myths of many peoples been reduced to what might almost he called an exact science, it cannot be pretended that many of its most salient ques-tions have been suitably replied to. Early efforts to answer the question as to the genesis of the gods led to the formation of many various theories. Thus we find them regarded as the expression of natural phenomena, as the sun, moon, and wind personified. Various myths depict the sunrise and sunset, others the spring florescence and the approach of the colder season. Among the most acute of these early investigators was Euhemerus of Thessaly, who advanced the doctrine that the gods were in reality early heroes exalted as divinities. Thus in his exalted as divinities. Thus in his estimation M. was but a disease of history, in which ancient kings and

Rome had been made before the last quarter of the 19th century, but it These three systems or root-beliefs was at this period that serious was at this period that serious tion began to be paid to the parison and elucidation of the store of mythic stories.

that the names of divinities were referable to words expressing natural phenomena. Moreover, he proved to some extent the philological connection between the names of many Hindu deities and those of Greece, Rome, and even of the Celts and Teutons. A new school arose with Lang and Fraser, both of whom interpreted M. in terms of savage life They exhibited the which exists be-

concepts of living savage peoples and those of Greece and Rome, and proved that all Ms. have their foundation in similar and unchanging conceptions. The careful student of M. will find it to his advantage to study on the lines of no one system, but to employ all within reason. One of the first essentials in the study of comparative religion is the possession and unremitting exercise of an abounding common sense, in order that unlikely theories may be rejected, and that examples and comparisons may be regarded in their true light without any fear of mis-

which he is himself endowed. Thus. in rivers, trees, heavenly bodies, and other objects which possess more or less the power of movement, he sees beings gifted with life. There are whisperings in the winds, the rivers prophesy as did the Peruvian Rimac the trees are the prisons of powerful enchanters, who moan from the place of their confinmeent. The entire universe, then, is a spirit-peopled one. This belief i to it is fet

Portuguese the belief the enter. or be coaxed into, objects of peculiar shape, the possession of which will benefit the savage. A further primitive belief which is found at the roots of all Ms. is that of totemism (q.v.). A totem is an animal or bird or plant which is regarded by a family or tribe as its original ancestor, with which it has blood-kin-ship. This belief exercises a powerful effect upon savage custom, especially as regards kinship and marriage. But as this question has little bearing on M. proper, it need not be pursued here.

which inhabit hich are sup-

il phenomena, attempted to show that in reality M. evolve from the annuistic form into may evolve into a local god. And most totems succeed in achieving godhead after several generations of tribal adoration. In the latter class we can descry the animal-headed gods of Egypt and Assyria, while animism supplies us with examples of water and sea-gods, thunder-gods,

and all the pantheon Classification of dcities.—The deities of various Ms. fall into several welldefined classes. Thus in all systems we have war-gods, water-gods, windgods, thunder and lightning-gods. gods of agriculture and the chase, gods of death, and many other mythic conceptions. Many of the deities of certain systems combine two or more of the attributes of godhead. Thus, it is common to find war-gods who are also gods of agriculture, and wind-gods or thunder-gods who are gods of the chase. Deities of death quite often preside over agriculture, as it is imagined that the seed arises from their subterranean domain. When mankind partially abandoned the hunter state and entered upon a semi-agricultural condition of life, a new type of mythical beings arose. With these, man had an implied contract to the effect that he should provide the gods with sacrifice in return for their superintendence of the crops and fruits of the earth. Unless man sacrificed to these gods they would withdraw their support and he would perish. This reverence to a newly-acquired pantheon would to a certain extent be instrumental in bringing about the partial neglect of the older totemic and animistic deities. Man did not dwell in such close touch with the gods of the soil as he had done with the older gods of the totem period, so that the former the true attributes of

health of the crops, and therefore the sustenance of the community, depended upon unseen beings who sent the rain, the wind, the thunder, and the lightning.

Cosmology.—An important department of myth is that which deals with the primitive conception of the world and its creation, and the origin of man. The likeness between cos-mological myths collected from all parts of the world is extraordinary, in that it cannot be accounted for by any theory of circulated or borrowed conceptions. We find in most of these the creative agency brooding over a

full-blown deities. Thus, too, a fetish either by a process of strenuous which gains more than personal fame thought or by physical toil. In other may evolve into a local god. And instances the universe is hatched from a cosmic egg. Man often passes through evolutionary types, several of which are discarded by the gods until they arrive at human perfection. Behind these we usually descry some dim creative figure, but ofttimes the universe is the work of a combined pantheon.

In the space left at our disposal we shall attempt a brief résumé dealing with the principal characteristics of the world's most important Ms.

Greece and Rome.—The Ms. of these peoples may be considered together, as in many instances their deities are directly interchangeable. We discover in them a well-defined pantheon ruled over by the great god of the sky, Zeus or Jupiter, who has sup-planted a still older generation of divine beings. With his wife, Hera or Juno, he rules over a divine galaxy, many of the members of which are related to him. Hephæstus or Vulcan, his son, wields the thunder and lightning, and is the craftsman or artificer of the gods. Pallas Athene or Minerva, presides over wisdom, but at the same time has something of a martial character as a sort of divine amazon. Ares or Mars is the god of Aphrodite or Venus presides war. over love, and Mercury acts as divine messenger between gods and men. Apollo is the god of song and art. Innumerable tales circle around these beings, tales which for beauty of conception and completeness of finish have never been equalled in the history of myth. But the Greek mind speedily discerned the unsubstantial nature of the shadowy system it had itself evolved, and we find very early doubts expressed concerning the real existence of the gods. Probably no dwelling more aloof from him, had mythological system attained such a much better chance perfection, or underwent collapse as that of Hellas.

guidance in the hunt fetish was usually employed, but the and more conservative folk, held its own for a little longer, buttressed as it was by the power of an upholding state, but it, too, crumbled speedily before the encroachments of monotheism.

Egyptian mythology.—In Egyptian M. we find evidence that the faiths of the lower cultus, totemism, animism, and the like, although still permitted to exist, had superimposed upon them the philosophical beliefs of a priestly class which had arrived at a high state of theological capacity. Recognising the folly of communicating abstract beliefs to the ignorant, the priestly caste retained so much of the vast world of waters and raising the early popular beliefs as seemed good solid earth from the flood beneath, to it, and employed them symbolicspeaks of the apes and other animals kept in captivity by the Egyptian priests, but he is careful to explain that these were in no wise regarded as idols, but as typifing the multifarious attributes of deity. However, the totemic system had obtained too strong a hold upon Egyptian M. ever to be totally extirpated, and we may say that the various figures of the Egyptian pantheon were evolved either from naturalistic or totemic concepts. We find the gods of Egypt arranged in triads, or groups of three. Egypt was sub-divided into nomes or provinces, and each of these possessed its triad of gods. Thus Osiris, Isis, and Horus at one time presided over one of these localities, but later, because of their exceeding popularity, became the national gods. The myth of Osiris, his birth, reign, and death, typifies the daily journey of the sun. His wife, Isis, and their son, Horus, lost all their original characteristics when they were interwoven with the Osiris myth. Nephthys, sister to Isis, probably represents the sunset. She was wife to Set, brother to Osiris, and god of darkness, who finally triumphed over his brother. Wisdom was personified in the god Thoth, or as he was called by the Greeks, Hermes Trismegistos. Anubis, or Anpu, presided over the lower regions, and was the patron of embalming. He was figured with the head of a jackal. Pasht, or Bubastis, the cat-headed, represented the heat of the sun. Besides these principal deitics a large number of the kings of Egypt were deified. An enormous and cumbrous ritualistic system had crystallised round this M., much of which is represented in the Book of the Coming Forth by Day, and deals with funerary practices. It is, in fact, a guide to the soul after death through the various divisions of Amenti, the sad underworld of the dead.

Semitic mythology.—The Ms. of the various Semitic races possessed a common origin, but were more or less influenced by the religions of sur-rounding peoples. In early Semitic M. we discover a polytheism having many of the features of totemism and animism embedded in it. We also find a widely-distributed system of pillar-worship, and each 'high place' and mountain appears to have possessed its special deity or ba'al. In the Book of Genesis we find confirmation of the polytheistic condition of the early Israelites, for whereas a deity, Jahveh, is alluded to frequently, we find several notices of and the Scandinavian Vulcan. Tyrbeings called the Elohim, the plural was the sword-god and god of war,

ally for the inculcation of higher re-|multiplicity. Obviously a later monoligious thought. Thus Herodotus theistic version has been combined with an older polytheistic one. The polytheism of the races surrounding Israel was merely a continuation of this old belief, and the monotheism of the Israelites arose in all probability from the great popularity of Jahveh, who had led them out of captivity into a happier sphere, who was a jealous god, and would brook no rivalry. The religions of Babylonia and Assyria were widely polytheistic, including as they did gods which represented every attribute and phase of deity. In Babylonian myth we find a great triad, Anu, En-lil, and Ea, who are at strife with darker deities, Apsu, Tiamat, and Marduk. The title Bel was bestowed on all gods alike as a generic one. Dagon was probably a corn deity. One of the probably a corn deity. One of the principal Assyrian deities was Ashtaroth, or Astarte, the wife of Marduk and the goddess of love, and typical of fruitfulness. Ashur, from being the local god of the city of that name, rose to the position of chief of the Assyrian pantheon, and was chiefly famous as the national god of war. A host of smaller gods followed, the majority of whom had little more than a local significance.

mythology .- The mythic Hindu system of the Aryan conquerors of India is polytheistic. The head of their pantheon is Brahma, whose leadership is oft-times, however, threatened by other powerful gods. The fullest account of the Hindu M. is to be found in the Vedic hymns, literary fragments of the earliest Hindu age. Brahma is passive, but when he acts he is given another name, Vishnu the Preserver, a more 'human' deity than the impersonal Brahma. Siva is Brahma in his guise as a punisher and destroyer. Varuna is god of the waters, and Indra wields the storm and the lightning. Vishnu has had many avalars, or incarnations, as has Durga, Siva's wife, the destroyer of demons. Innumerable inferior deities cluster around these conceptions, from their relations with whom many myths, scarcely in-

ferior to those of Hellas, have arisen.

Teutonic mythology.—Perhaps the
most important of the European mythic systems is that of the ancient Teutons. At the head of their pantheon was Odin, or Wotan, the All-father, who presided over the destinies of both gods and men. He DOSSESS! sun and

typifies ' housew.

Tyr ending of whose name denotes their Loki was the mischievous god of evil.

The Scandinavian idea of the universe was that the *aesir*, or gods, dwelt at the top of the world-tree, Yggdrasil. Round this tree coiled the great world-snake. At its roots dwelt Hel, the dark goddess of death. In Midgard dwelt the race of men. But the Norse conception of deity did not admit that its character was everlasting. On the contrary, before the eyes of the gods there ever loomed a dreadful day of doom, when after the battle of Regnarok, the powers of darkness and evil would rule supreme, and the divine sway come to an end.

Celtic mythology.--The Celts France and Britain possessed a welldefined mythological system, parti-culars of which can be gleaned from the remains of altars and images in France and England, and the mythological tales of Wales and Ireland. The Celtic religion was strongly influenced by primitive elements, fluenced by primitive elements totemic, animistic, and actional and although later in

the Celtic race new prompted the evolut deities, those of growth were probably the mc Most of the divinities, tribal or local in charac

find that certain gods in the Irish and Welsh myths are regarded as preeminent, it must be remembered that in all probability they had attained that position through the importance of the tribe which worshipped them. In ancient Gaul we find Ogmios equated by the Romans with Mercury, and Borvo, Bellenos, Grannos, and many more—all local gods—with Apollo. The martial character of the Gauls tended to the evolution of many war-like deities, Camulos, Albiorix, Caturix. Animal and nature gods also abounded, as Mullo, a mule-god, Vintius, a wind-god. 'Corn-mothers' were numerous and local, as, for instance, the famous Berecyntia, of Autun. In the mythical tales of Ireland we meet with a number of supernatural races, such as the Fomorians, Firbolgs, and Tuatha Dé Danann, all of which probably represent the several pantheons of various emigrant races. The most prominent Fomorians were—Balor, a personification of the evil-eye; Bres, probably the god of night, or perhaps of growth; and Domnan, a goddess of the depths of the earth. Of the Tuatha Dé Danann, which means 'the folk of the goddess Danu,' the principal deities are Dagda, the most important of all Irish gods, who is probably an earth or agricultural deity; Oengus, son of Dagda, a

Balder, the graceful god of light and Hand, who may have been a harvest summer, whose myth typified the god; Manannan, god of the seas; and death of that season. The Scandi- Lug, the sun-god. The principal Lug, The principal British Celtic divinities, as treated in the Welsh Mabinogi and other myths, were Llyr, god of the sea, and his sons, Bran and Manawyddan, all associated with the ocean; Don, the British equivalent of the Irish Danu; equivalent Danu; Gwydion, a sort of Celtic Protous; Arianrhod, an earth-goddess; and Govannon, equivalent to Vulcan. In the Arthurian romances we find many mythological characters disguised. but any consideration of these cannot be embraced in the limits of this article.

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of the three districts and also of its cap., in the island of Lesbos. The latter is divided into Molyvo in the N., Calloni in the W., and Kastro in the E. Myti-lini, or Kastro, the chief town of this district is built in the shape of an amphitheatre surrounding a small hill surmounted by an ancient fortress. It was at first situated on an island close to the E. coast of Lesbos, but as the town grew, the islands were joined by a causeway, and Mytilini expanded along the coast. During the Peloponnesian War the town revolted, and was besieged from 429-427; it was the scene of a battle between Callicrates and Conon in 405. Pompey raised Mytilini to the status of a free community. Pop. 20,000.

Myxœdema, a metabolic disease caused by disturbance of the function of the thyroid gland. This gland, which lies in front of the windpipe, is one of the so-called ductless glands. Its functions are not definitely known, but it is thought that its secretion aids metabolism either by counteracting poisons normal to the natural incidence of metabolism or by aiding in the absorption of proteid matter. the gland be removed by operation a state of sluggish metabolism sets in, with depression of mental function. The symptoms observed are similar to those occurring in the course of the god of growth; Nuada of the Silver disease described by Sir William Gull in 1873, and known as 'Gull's Disease' or M. The body increases in bulk, and the subcutaneous tissue of the face and hands becomes infiltrated with a mucin-like substance, causing a swelling which does not pit on pressure. The mental processes become sluggish, the speech becomes halting, and there is marked loss of mental and physical One of the characteristic symptoms is a total absence of sweating. The disease may run its course for many years with gradually increasing intellectual and physical incapacity. The connection of the disease with the loss of activity of the sthyroid gland is demonstrated by the similarity of the symptoms to those in which the thyroid gland is shown in which the thyroid gland is shown to be atrophied, and the fact that administration of thyroid extract causes a marked amelioration of the symptoms. symptoms is a total absence of sweat-

Myxogastres, Myxomycetes. Mycetozoa, a group of widely distributed organisms numbering some 500 species. Their exact biological position is still a matter of uncertainty. Some of them were known by the middle of the 19th century. and were understood to be fungi, but the spores on germination, instead of producing germ tubes, give rise to amœboid bodies; these have the

written rst limb was N, into N. into symbol

was nun, 'fish,' and the Greek vv. The sound of N is determined by the position of the tongue against the N, in English, standing by itself, is alveolar, and is pronounced with the tongue against the teeth sockets by drawing the breath It is palatal or through the nose. guttural according to the following sound. Thus in branch it is a palatal,

hen

b, p, and f, as in lime, Cambridge, hemp and comfort, from O.E. linden, Canta byrig, hanap, and Late Latin, confortare, respectively. On the other hand, a medial N may be derived from an M, as in ant (O.E. cemete, M.E. ēmet, amet). N is often found in conjunction with D, the latter dental being used to clinch the sound of the being used to clinch the sound of the former. Thus D, is frequently introduced between N and L, or N and R, as in spindle (O.E. spinel), thunder, (O.E. & unor). Finally, D is sometimes dropped (e.g. woodbine, O.E. wudubinde), and sometimes developed (e.g. sound, O.E. sunu). Initially, through normals etymology or care through popular etymology or care-less pronunciation, N has been introduced in nickname, newt, etc. (O.E. edc + nama, efete), and dropped in orange, adder, apron, etc. (M.E.

norange, nadder, naperon).

Naaldwijk, a vil. and com. of S.
Holland, Netherlands, 13 m. W.N.W.

of Rotterdam. Pop. 6403.
Nass, a market in. of co. Kildare,
Ireland, 9 m. S.W. of Dublin. It
was once the capital of the kings of Leinster. There are infantry barracks close to the town, and Puncheston racecourse is $2\frac{1}{2}$ m. to the S.E. Pop. 3836.

Nääs, a vil. in Sweden, 20 m. N.E. of Gothenburg, with a celebrated educational establishment.

Naauw Poort, or Naauwport, a vil. in the dist. of Colesberg, Cape of Good Hope, S. Africa, 25 m. N.W. of Middelburg. It figured in the Boer War, 1899-1902.

'he Eng-seaport on Great Liukiu Is., Japan. iost lan-Sugar, cotton, and silks are exported. Sugar, cotton, and silks are exported. Pop. 48,000.

Nabal, or Nebal, a tn. and port of Tunis, on the N. side of the Gulf of Hammamet, 40 m. S.E. of the city of Tunis. Near it are the ruins of the ancient Neapolis. It manufs. pottery.

Nabatæi, or Nabathæ, an Arabian people, who occupied nearly whole of Arabia Petræa, on both sides of the Ælanitic Gulf of the Red Sea and the Idumean Mts., where they had their rock-hewn capital, Petra. We first hear of the N. in 312 B.C., in connection with the attack upon them by Atheneus, general of while before g and k (e.g. bank, thing) King Antigonus I., which ended in it is a nasal. N and M

gradually advanced. of the 2nd century to be reckoned with.

N. eventually fell under Roman power, and the last was heard of them in 106 A.D.

Nabbes, Thomas (b. . 1605), an of Wor-

eer as a is chief 1633;

Hannibal and Scipio, 1635; Spring's Glory, containing his best work; and a continuation of Knolles's General Historie of the Turkes. See A. H. Bullen, Old English Plays, 1887.

Nabha, a feudatory state, Punjab, British India, under Cap., Nabha. under protection. Area 930 sq. m. (state) 300,000; (town) 18,000.

Nabis, a ruler of Sparta (206-192 B.C.). He usurped the throne and allied himself first with Philip of Macedon and later with Rome. In 201 B.C. he took Messene, but was driven out by Philopæmen in 200 B.C. Later he ravaged the surrounding territory and occupied Argos, but was driven out by the Corinthians. He was assassinated by Alexamenus.

Nablus, or Nabulus, a tn. of Palestine, 33 m. N. of Jerusalem. It manufs. a special brand of soap containing olive-oil. It is near ancient Sheehem. Pop. 25,126.

Nabob, a corruption of the Hindustani nawab, originally used only as a title for native Indian rulers, great officers of the Mogul's court, and governors of provinces. The title was also used for the governorsgeneral of the British possessions. In the 18th century the fitle came to be Naba, Napa, or Nafa, altn. and used familiarly for any person who returned from a far country with He drove out the Afghans from great riches.

Nabua, a tn. in the prov. of Ambos Camarines, Luzon, Philippine Is., 20 m. S.E. of Nueva Caceres. Pop. 18.893.

Nacajuca, a tn. of Tabasco, Mexico, on the Conzales R., 13 m. N.N.W. of San Juan Bautista, Pop. 11.000.

Nacaome, a tn. and mining dist. in the dept. of Choluteca, Honduras, Central America, 60 m. Tegucigalpa. Pop. 12,000.

Nachod, a tn. in Bohemia, Austria, on the R. Mettau, 109 m. E.N.E. of Prague. Pop. 11,812.

Nachtigal, Gustav (1834 - 85), German explorer, born at Eichstädt, near Stendal. In 1869 he set out from Tripoli on a mission from the King of Prussia to Bornu, visiting Tibesti and Borku, hitherto unvisited by Europeans, and by way of Bagirmi, Wadai, and Kordofan, arrived un-expectedly at Khartoum in 1874. In Sahara und Sudan (1879-89) he published an account of his travels. 1882 he was appointed German consul-general at Tunis, and in 1884 special commissioner to W. Africa.

Nacrite, a rare unisilicate mineral occurring in four-sided prisms in metamorphic rocks, both schistose and granitic. It is friable in character, gleaning, and pearly, consisting of greenish-white scaly plates, greasy to the touch. It comes under the species Kaolinite, and is found in Wicklow in Ireland, and in N. America.

Nadaillac, Jean François Albert du Pouget, Marquis de (1818-1901), a French politician and archæologist, born at Paris. He filled the offices of prefect of the Basses-Pyrénées from 1871-76, and of prefect of Indre-et-Loire, 1876-7. His works include: Les premiers hommes et les temps pré-Les premiers nommes et les temps pré-historiques, 1880; L'Amerique pré-historique, 1882; L'Homme Tertiaire, 1885; De la période glaciaire, 1884; Mœurs et Monuments des peuples préhistoriques 1882 at a méhistoriques 1882 at a préhistoriques, 1888, etc.

Naden, Constance Caroline Woodhill (1858-89), an English authoress and poetess, born at Edgbaston. She was much esteemed by Gladstone for her poems. Her works include: Songs and Sonnets of Springtime, and A Modern Apostle and other Poems.

Nadir (Arabic nazir), an astro-nomical term denoting the point in the heavens which is directly beneath our feet as that directly over-A line head is called the zenith. drawn from our feet through the centre of the earth would cut the celestial sphere at the N. In figura-tive language, the lowest point or lowest stage of depression.

He drove out the Afghans from Persia and restored Tamasp II. to his throne (1725-27); N. himself imprisoned him and became regent for his infant son Abbas III. (1732). The latter died in 1736, and N. was crowned. He extended his kingdom as far as Kandahar and Delhi (1738-180), but his furnavial research. 89), but his tyrannical government caused much disaffection, and he was assassinated. See Life by Maynard, 1885.

Nadiya, or Nabadwip, formerly the cap. of the Nadiya dist. in Bengal, India, and was situated on the Bhagirathi R., which has since altered its course. Near by is the battle-field of

Plassey. Pop. 11,000.

Nadol. a tn. containing famous ruins in the Jodhpur state of Raiputana, India, and is 68 m. N.N.W. from Udaipur.

Naegeli, Johann Georg (1768-1836), a Swiss musical composer, born at Zürich. In addition to composing music, he published and edited the best classical works, including Beethoven's sonatas.

Naestved, a market tn. in the co. of Praesto, Denmark, and 58 m. S.W.

of Copenhagen. Pop. 8326.

Nævius, Gnæus, a Roman poet, born about 265 s.c. He came into prominence in 235, and composed an epic poem as well as writing tragedies Gı

and ranks only second in importance to the Latin authors of his day.

Nævus, an area of pigmentation, or mole; a tumour of the skin composed almost entirely of enlarged blood-vessels. A mole is not dangerous, and does not tend to spread, therefore it usually requires no treatment, unless it is desired to remove it for the sake of appearance. A vascular N. may diminish in size of vascular N. may diminish in Size of itself, in which case no treatment is necessary; or it may show a disposition to enlarge, thus constituting a possible danger through hemorrhage. The N. may be capillary, consisting a colored capillary is to be a consistent of colored capillary in rise to be a consistent of colored capillary in rise to be a colored as a colored capillary in the colored capillary is a colored capillary in the colored capillary is a colored capillary in the capillary in the colored capillary in the ca of enlarged capillaries giving rise to a purplish mark known as 'port-wine stain'; it may be venous, consisting of enlarged veins, giving a bluish appearance; or arterial, when pulsation can be felt. It is often congenital, being popularly known as 'mother's mark,' owing to the superstition that the mother's longing for a strawberry or raspberry during pregnancy has impressed the mark upon the foctus.
The N. may be removed with the knife, or by tightly ligaturing the base, or the blood may be congulated by electrolysis and other agents.

Nadir, Shah of Persia (1688-1747), Nafels, a vil. in the canton of the Conqueror, born at Khorassan. Glarus, Switzerland, on the R. Linth,

4 m. N. of Glarus. The scene of a wrote Pflanzenphysiologische defeat of the Austrians by the Swiss

in 1388. Pop. 2600. Naga, the name given to deified serpents in Hindu mythology; Sesha, the king of the snake world, is the

sacred serpent of Vishnu. Nagano, or Zenkogi, a tn. of Hondo, Its fine Buddhist temple is

adorned with beautiful wood-carving. Pop. 40,000.

Nagar Karnul, a vil. of India, 62 m. of Haiderabad, on a trib. of the R.

Kistna. Pop. 6500. Nagar Köll, a tn. in Travancore, India, 40 m. distant from Tinnevelli. Pop. 12,000.

Nagas (naga, a snake), the name of a non-Aryan tribe of India, to which great virtues were ascribed. According to Indian mythology the N. are a race of demons descended from Kadin, the wife of the sage, Kasyapa. They have a jewel in their heads, it is a powel in their heads, it is recorded that their dengthers often wedded with their dengthers often wedded with their daughters often wedded with man (compare the habits of mermaids as exemplified in Western folklore). The old sage, Gauge, one of the fathers of Indian astronomy, was said to owe all his wisdom to the god Sesha.

Nagasaki, a city and port of Japan, opened to foreign commerce, by the treaty of 1858, on July 1, 1859, is situated at the western extremity of the peninsula of Fizen, which forms the N.W. portion of the island of Kiushiu. The harbour, which is one of the most beautiful in the world, is about 6 m. in width, and 3 or 4 m. in The hills surrounding the harbour are broken into long ridges and deep valleys; while the more fertile spots are terraced and under cultivation. The town of N., which is about a mile in length, and threequarters of a mile in width, lies on the N. side of the bay. On the opposite side of the bay there are shipbuilding yards and engine works. N. is an important coaling station. The climate is genial. The exports, which include tea, cement, coal, rice, lacquer ware, porcelain, etc., are valued at £340,000 annually, and the imports reach £900,000. Pop. 178,074.

Luzon,

Nagcarlan, a pueblo of hilippine Is. Pop. 10,000.

Philippine Is. Pop. 10,000. Nägeli, Karl Wilhelm von (1817-Nägeli, Karl Wilhelm von (1817-1891), a German botanist, born near Zürich. After studying at Geneva Candolle, under he graduated at Zürich University, and was ulti-appointed professor-extraordinary of that institution. He

Untersuchungen (with Cramer), Die Neuern Algensysteme, and Mechanisch-physiologische Theorie der Abstammungslehre.

Nagina, a tn. of the United Provinces, India, in the dist, of Bijnaur, with an important trade in sugar, cotton cloth, and glass ware. Pop.

22,000.

Nagle, Sir Edmund (1757-1830), a British admiral. He became captain in 1782, and saw active service off the coast of America and later during the war with France. He became rearadmiral in 1805, vice-admiral in 1810, and nine years later admiral. He was for many years a boon companion of the Prince of Wales (afterwards George IV.).

Nagode, a native state of Central India. Area 450 sq. m. It has two important towns, Nagode, formerly a military station, and Unchechra, the

capital. Pop. of state, 75,000.

Nagoya, a fortified tn. of Hondo,
Japan, 94 m. E.N.E. of Kyoto. It
owns the famous Seto potteries as
well as fine cotton mills. Textile fabrics are manufactured here. Pop.

378,271.

Nagpur: 1. A div. of Central Provinces, India, extends immediately N.E. of the Nizam's dominions. The N. part of the province is mountainous in character, being traversed by spurs of the great Vindhya Range. The climate is not healthy, and is especially insalubrious in the extensive tracts of low marshy land which abound. Area 23,521 sq. m. Pop. 3,728,063. 2. A city of India, cap. of the Central Provinces and Berar, 450 m. E.N.E. of Bombay. Cotton cloths coarse and fine chintzes, turbans, silks, brocades, blankets, woollens, tent-cloths, and articles in copper and brass, are manufactured. 101,415.

Nag's Head Consecration, a legend circulated by the Roman Catholics in Queen Elizabeth's reign concerning Archbishop Parker, who they de-clared had been conscerated in a most irregular manner at the Nag's Head, Cheapside.

Nagy-Banya, a royal free city in Szatmar co., Hungary, 90 m. N.E. of Debrecziu. It possesses a Minorite convent and gymnasium, and there are gold, silver, and lead mines controlled by the state. Pop. 12,000.

Nagy-Beeskerek, cap. of Torontal co. in Hungary, on the Bega, 45 m. N.E. of Temesvar. There is a trade in cattle and corn. Pop. 26,000.
Nagy-Boosko, a com. of Maramaros co. in Hungary, 8 m. E.N.E. of Maramaros-Sziget. Has chemical works.

Pop. 5300.

Nagy-Enyed, a tn. of Transylvania

Pop. 7500.

Nagy-Kallo, a com. of Szoboles co., Hungary, 35 m. N.N.E. of Debreczin,

Pop. 7500.

Nagy-Karoly, cap. of Szatmar co., Hungary, 40 m. E.N.E. of Debreczin. Here is the castle of the Counts Karoly. Has linen and cotton manufs. Pop. 15,000.

Nagy-Kikinda, a tn. in Torontal co., Hungary, 37 m. W. by N. of Temes-var, with important trade in wheat and fruit. Pop. 25,000.

Nagy-Körös, a tn. of Pest co., Hungary, 45 m. S.E. of Budapest. It is famed for its melons. Pop. 27,000. Nagy-Maros, a com. of Hont co.,

Hungary, on the Danube, 20 m. N.W. of Budapest. Pop. 4200.

Nahant, a seaside vil. in Essex co..

Massachusetts, U.S.A., and 9 m. from Boston. Pop. (1910) 1184. Nahuath, or Nahuatlan Stock, the name given to a race of American Indians in Mexico. This term was applied to the Nahuas, and to a few isolated tribes in Central America at

the time of the Spanish conquest. Nahum, the seventh of the minor prophets, is described in the title of his work as an Elkoshite, and the

described with great vigour and maj the

8-1C will be as little able to avoid destruction as was Thebes (No-amon), and it is from this reference that the date of the prophecy must be fixed. From it one can say certainly that N. prophesied between 664 and 607 B.C. See A.B. Davidson's 'Nahum, Habakkuk, and Zephaniah,' in Cambridge Bible,

Naihati, or Nyehatte, a tn. of Bengal, India, 22 m. N. of Calcutta. Pop.

24,000. Nail. Until a comparatively recent period almost every kind of N. was produced by hand-labour: each N.. however minute, was separately forged from a thin rod of iron, a process which is still followed in the production of what are technically known as wrought Ns.; and as Ns. so formed possess certain advantages,

Hungary, 32 m. S.E. of Klausenburg., formed by the much cheaper process of casting have been long used. Common cast Ns. are, however, so clumsy and so brittle that they can only be used for a few coarse purposes as in plasterers' work, and in the nailing up of fruit trees. By the introduction of great improvements in the manufacture, however, a very useful kind of cast N., of an exceedingly pure material has been successfully introduced for certain descriptions of woodwork. They are annealed to such perfection that the

> quite unsuitable for use in hard woods. In the making of cut-nails. the Ns. are cut from sheet-iron of suitable thickness, which is first reduced, by cutting transversely, into strips or ribands of a breadth equal to the intended length of the Ns. These strips are then applied to a machine in which a chisel-shaped cutter descends with sufficient force to cut off from the end of the strip, at each downward stroke, a narrow piece sufficient to form one N. As the Ns. are required to be of a tapering form, the cutter must be so fixed as to form a slightly oblique angle to the direction in which the strip is pushed into the machine, and this obliquity must be reversed or varied between each stroke, by means similar to those adopted in comb-cutting machinery.

> Nailsworth, a tn. in Gloucester-shire, England, 4 m. S. of Stroud, with manufs. of stockings, boots, and

pins. Pop. (1911) 3031.

Nain, an ancient tn. of Galilee, 26m. S.E. of Acre. Mention is made of this city in St. Luke vii. 11. N. is also a station of the Moravians on the

Labrador coast.

Naini Tal, a dist. and tn. in the United Provinces, India. The dist. which is well wooded, has an area of 2677 sq. m.; the principal crops are wheat and rice, some fruit, and a little tea in the hilly parts. Fop. 320,000. The tn. is 70 m. N. of Barcilly, and is the summer headquarters of the provincial government. Alt. 6400 ft. Pop. 8500.

Nairn, a royal (1124) municipal burgh, and co. tn. of Nairnshire, Scotfor particular kinds of work, over land. It lies on the Moray Firth, and those formed either by casting, or by has a harbour with pier and break-cutting or stamping out of rolled water. Fishing is the main industry.

sheet metal, there is no reason to Freestone is quarried, and there are and twinery factories. The good ng and fine golf course have it a favourite summer resort. (1911) 4661.

Nairne, Carolina Gliphant, Baroness (1766-1845), a Scottish song-writer, the Orange R. Angra Pequena, on born at Gask, Perthshire. She was called the 'Flower of Strathearn' on The chief productions of the region are account of her striking beauty. She wrote songs under the pseudonym of 'Mrs. Bogan of Bogan' or 'B.B.' The and S. of the Orange R. There are most popular ones are Land o' the Leal; Charlie is my Darling; Caller the region is barren and is covered Herrin'.

Nairr Scotlan Moray .

Nairne

the counties of Inverness and Moray, ostriches on the grassy flats of the Salmon fis

dustry. the county

presents particularly attractive and romantic scenery in the neighbour-hood of Cawdor Castle, one of the residences of the Earl of Cawdor. Area 162 sq. m. Pop. (1911) 9319. Nairobi, a tn. in British E. Africa,

and cap, of the prov. of Ukamba. It can be approached by the Uganda Railway. Pop. 14,000 (800 Europeans).

Naivasha, a tn. in British E. Africa, in the prov. of Naivasha, and close to the lake of same name. It is 39 m.

distant from Mombasa.

Najibabad, a municipal tn. in the Bijnor dist. of the United Provinces, India, lies 55 m. N.E. of Meerut. An extensive trade is carried on in sugar, timber, and cotton cloth. Pop. 20,000.

Nakhichevan, a tn. of Russia in Transcaucasia, 85 m. S.S.E. Noah is supposed to have settled here after the deluge. 9000.

Nakhichevan-on-Don, a tn. of S. Russia, in the prov. of Don Cassacks, on the r. b. of the Don, and near the mouth of that river, 2 m E. of Rostov. It was founded in 1779 by Armenian of the rand bear 20000 in behiever. settlers, and has 30,000 inhabitants, mostly Armenians. Tobacco, candles, and tallow are manufactured, and there are tanneries and brick works.

Nakskov, cap. of Laaland, Denmark, 82 m. S.W. of Copenhagen. Brewing and sugar refining are

carried on. Pop. 8400.

Namangan, a tn. of Russian Central Asia in the upper valley of Syr Daria. hood. Pop. 74,000.

Namagua, the name of a Hot tot tribe inhabiting Namaqual S. Africa. Of all Hottentots are by far the purest survivors,

Bushman country. Area 20,635 sq. m. Pop. (estimated) 20,000.

Nam-dinh, a fortified in. of French Indo-China, on the Tong-king branch of the Song delta, 47 m. S.S.E. of of the son, and cap, of the pro-

the same name. It is the seat of a French envoy. Pop. 50,000. Name Day: 1. On the Stock Ex-change it means the second day of the periodical monthly (for British government and allied stock, etc.) or settling day. On ticket other securities) On the second day a ticket, giving the name and address of the ultimate buyer, and the firm who will pay for the stock, is passed through various intermediaries to the ultimate seller, so that the transfer of stock may be made directly. In the mining market the passing of names takes two days. If the ticket is not passed out by the buyer, the seller may sell out the securities through the official broker, any difference in price being made up by the buyer. N. D. is sometimes called ticket day. 2. The day which is sacred to the saint whose name borne by a person. The term is naturally used principally in Roman Catholic countries.

Names (O.E nama, Ger. namc; cf. Lat. nomen, Gk. ŏvoµa, the title by which a person, place, thing, or class of persons, places, or things, known. N. which have come particularly complex in formation and which are therefore extremely interesting, are those of persons and places. Placenames, when 36m.N.N.W. of Marghilan, Petroleum carefully and scientifically studied, and coal are found in the neighbour-furnish much information as to the

are the only tribe to preserve not of the Celtic inhabitants of Britain only the racial type, but their own consist in place names. Except in language. Khoi-Khoin is the name this direction, the number of words language. Knot-Knoth is the name by which they call themselves. A which the present inhabitants of dictionary of the Namaqua language knoth by Tindall in 1852. Singly small, and the investigations of ingly small and the investigation of ingly small and the i Namapualand, or Namaland: 1. modern philologists have reduced it Great, a region of German S.W. to a mere handful. In place N., Africa, is a desert land sparsely however, that commonest of river-1. modern philologists have reduced it

appei the r dun,

aber rivers'; and ben, 'a mountain.' inc great settlement of Danes which took place in the castern countries during the 9th century has led to the towns and villages of that district being largely derived from the Scandina-vian. Thus, the commonest of all place-N, terminations in the Lincolnshire district is -by, the Norse for a It is almost impossible to village. mention any of the vast number of Saxon place N., for the great majority of those in England come from that Common and obvious sufsource. fixes are -ham and -ton. Frequently the root of the N. is that of the original possessors of the land, sometimes a tribe, sometimes a family, sometimes an individual, as in the case of Anlaby (from Anlaf), Rowlston (from Hrol(r). Roman influence in Britain as throughout the Continent was primarily military, and this country it never made much advance beyond this stage. The Roman castra, a camp, appears in many forms, either alone or as a suffix (e.g. Chester, Doncaster, Dorchester). Other N. are derived from prominent local features, even from trees, as in Alder. the cases of As

shot, Olney, a vestigation of of place N. is a times extremely ditheun, requiring an

accurate knowledge of philology, for in the course of ages, assimilation, corruption, and popular attempts at etymological correction have often altered the names almost beyond recognition. Personal names are, in general, more easy to explain than are place-N., though their history is more complex. Among uncivilised as well as among civilised peoples the

among unsometimes ' are chosen n, or from

some event showing tue circumstances of the birth. This method of naming children is well shown in the early books of the O.T. The N. of the gods of the

of the N. velopment. meaning ar private N.

on purely By the time

'-- caius, Caius, Marcus, Titus, Collowing this came the Quintus. Nomen (gentile) which belonged to all members of the gens and those connected with it or adopted into it. Among patrician gentes the nomen almost invariably ended in -ius. The cognomen, or surname, was the family N., and was generally derived from some personal quality or peculiarity, as in the cases of Naso, Torquatus, Lepidus, Longulus, or from geographical Sabinus and . he case of Cait the prænon, and Cæsar the cognomen. Of these N., either the first or the last might be used alone, the first two, or the first and last, might be used in combination, but it is interesting to note that the present popular designation, Julius Cæsar, is the only one that would never have been used by the Romans them-In addition to these three N., a fourth was sometimes given. generally in recognition of some great deed or conquest. Thus, it was by his exploits against Carthage that Scipio obtained his agnomen. cognomen secundum, of Africanus. Similarly, we have the additions Asiaticus and Creticus. When a man was adopted into another family he took all the three N. of his adopted father and to these he added a second cognomen derived by the addition of anus from his old nomen. Thus, when datus Octavius, grandson of Julia, the sister of Julius Cæsar, was adopted by his great-uncle, he became known as Caius Julius Cæsar Octavianus. To these N. was added in 27 B.c. the N. of Augustus. At the present day the child's personal N. is known as its Christian or baptismal N., having generally been given on the occasion of its baptism. During the early middle ages, a man had no N. but this. In course of time the necessity for some further distinction arose, and a man was described according to his trade, his residence, his father's N., or some personal peculiarity. The historical novel has familiarised every one with these various types of surname, and it is not difficult to trace them in modern English. The prefix at is The prefix at is very common, showing a place of residence, as in the names Atwood, Atwell, Atfield. Many of the occupations which have provided us with By the tim.

N, were already many in number, but surnames have now ceased to exist.

Such are Dempster (judge), Scrivener (writer), Walker (fuller), etc. A very large number of N. are derived from sonal and belonged to the individual. It was known as the Pranomen. country particular affixes are used. Common Roman pranomina were Thus, in England, we have the

Namur

common termination in -son or simply s. In Ireland we have the prefix O in Scotland and Ireland the prefixes Mac and Fitz (Fr. fils), in Wales the form Ap, of which the a frequently disappears (e.g. Price from ApRhys). Surnames were very gradually intro-duced, and it is not until the 12th century that they begin to become hereditary. Before and frequently after this time the surname as well as the Christian N. was peculiar to the individual. Now, however, it is an established custom that the children should invariably be known by the N. of the father. On the occasion of a woman marrying, it is usual for her to take her husband's surname. See M. A. Lower's Patronymica Britannica, 1860; C. M. Yonge's ed.), 1884; cographisches

Dictionary of Place Names; Wagner's Names and

Namur 1. A prov. of Belgium, bounded on the N. by Brabant, E. by Luxembourg and Liège W. by Hainault, and S. by France. The principal rivers are the Meuse, which entirely intersects the province the Sembra intersects the province, the Sambre, and the Lesse. N. presents generally an alternation of fruitful valleys and low hilly tracts; but in some parts, where the heights constitute off-shoots of the Ardennes, and are densely wooded, they attain a con-siderable elevation. Besides iron, copper, lead, and coal mines, N. has marble and slate quarries, and yields sulphur, alum, cadmium, alumina, flints, etc. It has good steel, iron, and smelting works, breweries, paper mills, etc. Area, 1414 sq. m. Pop. 365,606. 2. The chief tn. of the above prov., is situated at the confluence of the Sambre with the Meuse, and is a strongly fortified town and the seat of a bishop. Its cathedral is one of the most beautiful in Belgium; it was consecrated in 1772. N. is noted for its outlery, its leather works, and its iron and brass foundries. Porcelain,

pottery, and glass are also manufactured. Pop. 31,939.

Nanaimo, a th. and coal-mining centre on Vancouver Is., British Columbia, Canada, 74 m. N.N.W. of Vistolia. Chief exports are coal, lumber, salmon, and furs. Pop. 7000. Nana Kru, or Nanna Kru, a seaport of Liberia, W. Africa, 170 m. S.E. of

ing out of the Indian Mutiny (1857) he joined the rebels, and is remembered for his treachery at Cawnpore (1859), where he caused men, women, and children to be massacred. Ultimately he was attacked and took refuge in the jungles at the foot of the Himalayas, and is supposed to have perished there.

Nan-chang-fu, the chief city of the prov. of Kwangsi, China, situated on the R. Kan, 175 m. S.S.E. of Hankow, has an extensive porcelain trade.

Pop. 100,000.

Nancy, a tn. of France, cap. of the dept. of Meurthe-et-Moselle, on the l. b. of the R. Meurthe, 175 m. S.E. of Paris. The ancient part of the town is noticeable for its narrow, irregular streets, while the modern part has broad open

view of the handsome Pl

Ville Neuve from the Ville Vieille, and is surrounded by many important buildings, such as the Hotelde-ville and Bishop's Palace. Other interesting features are the cathedral and the church of the Cordeliers. N. is an important railway centre, and has numerous manufs., including lace goods. Pop. 119,949.

Nandair, a tn. of Haiderabad, India, on the R. Godaveri, 126 m. S.W. of Amraoti. Manufs. muslin. Pop. 14,000.

Nandgaon, a feudatory state of the Central Provinces, India. Area 871 sq. m. Cap., Raj-Nandgaon. Pop. 126,000.

Nandi, a dist. in British East Africa. N. is also the name of a tribe of

Uganda akin to the Masais.

Nankeen, a cotton cloth of a peculiar yellow shade, which was originally manufactured in Nanking (China), but has been imitated in other countries.

Nanking, or ancient capital of China, now the chief tn. of the prov. of Kiangsu and the residence of the governor general of three provinces, is situated about 3 m. from the S. bank of the Yang-tse-Kiang and about 100 m. from its mouth. The ancient palaces have almost entirely disappeared, and the remarkable monuments royalty that now remain are some sepulchral statues of gigantic size near an ancient cemetery, known as the Tomb of the Kings. Here is the Monrovia.

Nana Sahib (1820 - c. 59), the last of the Mahratta peshwa Bajee Rao, side being 15 ft. wide; the helght is who was deposed in 1818, and pensioned, adopted Dhondoo Punt, also called Nana Sahib. In 1853 Bajee Rao died, and Nana Sahib claimed Rao died, and Nana Sahib claimed after the city Nankeen. Paper and rape Rao's estate and pension, but that peace was concluded between the latter was refused. On the break-England and China in 1842. Its £999,367 and its exports at £401,149. In 1909 the railway connecting it with Shanghai was completed, and Tukow, on the opposite side of the river, is the terminus of a line to Tientsin, opened in 1911. The neighbourhood is marshy, which makes the

climate dangerous to foreigners who are liable to malaria. Pop. 267,000. Nansen, Fridtjof (b. 1861), a Nor-wegian explorer and scientist, born at Fröen, near Christiania. His first voyage was made in the Viking (1882), his second voyage was made to Greenland in 1888, where he and his companions, Otto Neumann Sverdrup and Captain O. C. Dietrichson, together with others, encountered many hardships in their attempt to cross the great ice-field. The most epochmaking of Nansen's adventures was his voyage in the Fram to the Arctic regions, where he deliberately allowed his vessel to drift with an ice-floe as far N. as he could go, and then abandoned his ship in order to push his way further N. The Fram sailed on June 24, 1893. Leaving the Fram, Nansen, accompanied by Johansen, pushed across the ice, wintered in Franz Josef Land, and was picked up by the Jackson-Harmsworth expedition in 1896. Nansen became tremendously popular on account of his plucky enterprise, and received a great ovation on his return to Norway. The explorer lectured at London and other places, and received amongst other honours a special medal from other honours a special medal from the Royal Geographical Society. Amongst his writings are: Farthest North; In Northern Mists. Nan-shan (the South Mts.), the name of a range of mountains in Cen-

tral Asia, extending from the S.E. to the N.W. between Tibet and the Gobi desert, from Nan-chou-fu in Kan-su to the neighbourhood of Sa-chou. most easterly part of the chain is composed of three parallel ranges, the centre part of two ranges enclosing a lofty plateau, whilst the western portion is a single range. The average height of the range is over 13,000 ft., and the Humboldt spur extends for 60 m. at a height of 16,000 ft. From this spur the Ritter chain extends to the Tsaidan plateau. The N. range includes the S. Kuku-nor and the Semarov ranges, and two ranges discovered and named by Prievalsky. The whole system, like the Kuen-lun, is older than the Tertiary period, and has large carboniferous beds. Marine formations have been found at a height of 18,000 ft. above sea-level.

imports in 1910 were estimated at aluminium. The town contains the shrine of St. Geneviève (420 - 512), the patron saint of Paris; a pilgrim-age takes place hither in September. Pop. (com.) 17,500.

Nantes (ancient Namneles, or Nannetes), an important seaport tn. of France, cap. of the dept. of Loire Inferiéure, is situated on the r. b. of the Loire, 30 m. from its mouth. The natural beauties of the site have been much improved by art, and now the noble river on which the town is placed, covered with craft of every size and description, the islands that stud its channel, and the bridges that cross it and its tributaries here, combine to make the scene a highly picturesque one. This town possesses numerous striking and beautiful buildings; among which the cathedral of St. Pierre, containing the splendid monument of Francis II., the last Duke of Bretagne, and of Marguerite his wife; and the old castle, built in 938, are the chief. Within recent years much has been done by dredging for the improvement of the river-bed, and large vessels can now reach the harbour, which is fairly spacious. The chief manufactures of N. are varieties of linen and cotton fabrics, calicoes, flannels; refined sugar and salt, soap, chemical products, cordege, sardines, preserved fruits, and meats, etc. It contains tanyards, copper foundries, brandy distilleries, tobacco and sugar fac-tories. Shipbuilding is engaged in, and the exports include cereals. potatoes, eggs, preserved provisions, hardware, pyrites, and slate. Henry IV. signed the famous Edict of Nantes here in 1598. Pop. 170,535.

Nantes, Edict of, see EDICT OF NANTES.

Nanteuil, Debast (1892 78) a Franch engraver, be

Paris he wa signer and engraver to the king, with a pension. He modelled his work with great exactness, according to nature, and gave them marked individuality.

and gave them marked mulviduality.

Among his finest portraits are those
of Mazarin, De Bellièvre, Turenne,
Jean Loret, and Anne of Austria.

Nanticoke, a bor. in Luzerne co.,
Pennsylvania, U.S.A., 100 m. N.W.
of Philadelphia. Coal is mined in the
vicinity. Pop. (1910) 18,877.

Nanticket, a in, and cap. of Nan-

Nantucket, a in. and cap. of Nan-tucket co., Massachusetts, U.S.A., on the island of Nantucket (51 sq. m.), 28 m. S. of Cape Cod Peninsula. It is chiefly important as a summer resort. Pop. (1910) 2962.

Nantwich, a market tn. in Cheshire, Nanterre (ancient Nemptodurum, or Nemetodurum), a tn. of France in the dept. of Scine, 8 m. N.W. of Paris by houses of the 16th century. Thotown rail. It has manufs. of tallow and is visited for its brine baths. There are tanneries, flour-mills, iron foun-inous flame, N. is sometimes used for and textiles. Pop. (1911) 7816.

Naoroji, Dadabhai (b. 1825), the first Indian member of the House of Commons, is the son of a Parsi priest, born in Bombay. He was educated at the Elphinstone College there, and in 1854 became professor of mathematics and natural philosophy at the same college. In 1855 he visited England, and in 1867 succeeded in founding the East India Association, and in 1870 obtained the admission of Indians to the Civil Service. In 1874 he became Prime Minister of Baroda. from 1885-87 was a member of the Bombay Legislative Council, and at the General Election of 1892 was elected M.P. for Central Finsbury. He is the author of Poverty and Un-British Rule in India, 1901; The Rights of Labour, 1906.

Napa, the cap. of a co. of the same name, California, U.S.A., 39 m. N.E. of San Francisco. It has tanneries, woollen and planing mills; the Napa soda springs, and deposits of quicksilver, copper, and silver are in the neighbourhood. Pop. (1910) 5791.

Napance, a port of entry of Ontario, Canada, cap. of Lennox co., on the lene (C₁₀H₇NH₂), occurs in a and β Napance R., 21

It has foundrie and manufs. of Naphtha, a to to the liquid neighbourhood

The natural oils of other countries became included under the term which has now been restricted to the mixture of low-boiling hydrocarbons obtained in the fractional distillation of petroleum, coal tar, and shale oil. The paraffins are petroleum Ns., and olefines and paraffin are obtained from shale oil. Coal tar N. collected up to 170° is a crude light oil which is redistilled fractionally for 'solvent or naphtha,' burning naphtha, which consists of xylene, pseudocumene, etc. All these Ns. are volatile, highly inflammable liquids, with the odour of benzene, and are valued as burning oils and solvents for gums, resins, etc. Wood N. is crude woodresins, etc. spirit.

Naphthalene (C10H8), an aromatic hydrocarbon, occurs in coal tar. Crude crystals of N. are obtained by fractional distillation of coal tar between 1709-230° C. These are treated with sulphuric acid, and pure N. is finally obtained by distilling in steam. It crystallises in large lustrous plates, melts at 79° C., and boils at 218°, and has a crystallises of the control of the control of the crystallises. has a sp. gr. 1

istic odour, is insoluble in soluble in hot

its vapour burns with a highly lumi- wark 1855-60). See Life and Corre-

dries, and manufs. of boots and shoes carburetting coal-gas, but its chief use is for the manufacture of derivatives which are used as dyes. oxidation with dilute nitric acid. phthalic acid is formed, proving that N. contains the benzene group, and its constitution has been shown to be that formed by the condensation of two benzene rings. Two classes of derivatives are formed, called a or β according to the position of the entering groups.

Naphthol (C10H7OH). The naphthols (a and β) are monohydroxy derivatives of naphthalene, correspond with the monohydric phenols, which they resemble in properties, and are used as sources of dye stuffs; a naphthol (melting point, 94° C, boiling point, 280° C.) is prepared from a naphthylamine, and is a colourless crystalline substance with a faint smell, soluble in alcohol and ether, but sparingly soluble in hot water. The 8 variety (melting point, 122° C.; boiling point, 286° C.) is soluble in water, its solution giving a green coloration to ferric chloride, while the a compound gives a violet coloration.

Naphthylamine, or Amido-Naphtha-

stalline substance with nell (melting point, 50° int, 300° C.), prepared nitronaphthalene. The prepared from β naph-

is odourless (melting point, 112° C.; boiling point, 294° C.). Both varieties and their derivatives are extensively employed in the manufacture of dyes.

Napier, a scaport and winter resort on the E. coast of North Is., New Zealand, on Hawke's Bay, 200 m. N.E. of Wellington by rail. It has a good harbour, Port Ahuriri, protected by a breakwater. Large quantities of wool, tinned and frozen meat are

exported. Pop. 10,000. Napier, Sir Charles (1786-1860), a British admiral, cousin of Sir Charles James N., born at Merchiston Hall, near Falkirk. He entered the navy in 1800, and took part in the capture of the W. Indies in 1806-8. In 1811 he saw active service in the Mediterranean. Two years later he went to America on the expedition up the Potomac, and was put in command of the Galatea off Portugal, 1829. 1833 he was asked to take command of the Portuguese fleet, with which he was victorious off Cape St. Vincent. In the Syrian War of 1840 he stormed Sidon, and in 1854 was commanderin-chief in the Baltic against Russia. He twice sat in parliament: for Marylebone (1842-46), and for South1862.

Napier, Sir Charles James (1782-1853), a British general and statesman, born in London. He fought in the Irish Rebellion (1798), in Denmark (1807), and was wounded and taken prisoner at Corunna (1808). He returned to the Peninsula in 1811, took part in the expedition to Chesapeake (1813), and after peace was signed became governor of Cepha-lonia (1818). In 1841 N. was dispatched to India, and two years later won a great victory at Meeanee, by which he subdued the rulers of Sindh. His administration there was described by his brother, Sir W. F. P. Napier (1851), who also wrote a biography of him (1857). He himself wrote many books, chief of which are Colonisation, 1835, and Defects, Civil and Military, of the Indian Govern-

Napier, Sir Francis, ninth Baron Napier, first Baron Ettrick of Ettrick (1819-98), a diplomatist, born at Thirlestane in Selkirkshire, and began his career, in 1840, at Vienna and Constantinople, afterwards being sent to the United States and then to the Hague. From 1860-64 he was ambassador at St. Petersburg, and from 1864-66 at Berlin. In 1866 he became governor of Madras. After a temporary appointment as governorgeneral of India he returned to

England.

ment, 1853

Napier, John (1550-1617), laird of Merchiston, the inventor of logarithms, was born at Merchiston Castle, near Edinburgh, and educated at the University of St. Andrews and on the Continent. In 1614 he published his invention by which sines, tangents, etc., may be briefly calculated in his treatise, Logarithmorum Canonis Mirifici Three years later he Descriptio. wrote Rabdologia seu Numerationis per Virgulas libri duo, describing an ingenious method of multiplying and dividing, known as 'Napier's bones, 'or 'rods.' N.'s Plaine Discouery of the whole Revelation of Saint John (1593) enjoyed great popularity during his lifetime. Consult Lives by the Earl of Buchan, 1787, and by Mark Napier, 1834; and an article by W. R. Macdonald in the Dictionary

National Biography.
Napier, Macvey (1776-1847), editor of the Edinburgh Review, born at Glasgow. He became Writer to the Signet (1799), Signet librarian (1805-37), and profess

the Edinburgh edited the fifth Brit. (1816-24),

spondence by Major-General E. Napier, J. S. Mill, Brougham, and Sir James Stephen. See his Correspondence. 1879.

Napier. Sir William Francis Patrick (1785-1860), a British soldier and historian, a younger brother of Sir Charles James N., born at Celbridge, near Dublin. He joined an Irish regiment in 1800, and subsequently fought in Denmark (1807) and in the Peninsula (1808). His History of the Warin the Peninsula (6 vols., 1828-40) is a classic. His other works are: Conquest of Scinde, 1845; History of Sir Charles Napier's Administration of Scinde, 1851; Life and Opinions of Sir Charles Napier, 1857. Consult Life by Lord Aberdare (2 vols.), 1862.

Napier of Magdala, Robert Cornelis Napier, first Baron (1810-90), a British field-marshal, born at Colombo. Ceylon. He served with distinction through the two Sikh wars; was present at the relief of Lucknow, and afterwards defeated Tantia Topi on the plains of Jaora Alipur. In 1868 he was put in command of the Abys sinian expedition, and on account of his brilliant services at the storming of Magdala was created a peer. Sub-sequently he was appointed commander-in-chief of the forces in India (1870), governor of Gibraltar (1876-82), and constable of the Tower (1886). He was made field-marshal in 1883. See Memoir by R. Maclagan.

Napier's Bones, or Rods, sec NAPIER,

JOHN.

Naples (It. Napoli): 1. A prov. in Campania, Italy. It occupies a constal plain of the R. Volturno overlooking the Tyrhenian Sea, and is backed by the Matese Mts. of the Apennines. Its climate is almost tropical yet salubrious, but with the drawback of a dry summer; it is extremely fertile, and its people are laborious and frugal. Olive, vine, chestnuts, corn, hemp, and cotton are grown; besides shipbuilding, there are manufactures of machinery, chemicals, motors, lace, cotton, paper, chocolate, musical

shares the naval defence. The university, founded in 1224 by Frederick II., is one of the oldest of Italy and Italy. now the largest in being attended by nearly 6000 students and auditors. It lies some 100 m. S.E. of Rome, with which it communicates by means of 125 m. of railway 1884, after a bad outbreak of cholera, ceeded Jeffrey as editor of the Edin-the town has been vastly improved, hurgh Review, among his contributors the old town being demolished, rebeing Macaulay, Hallam, Thackeray, drained, and rebuilt. The Musco

Farnese collections, large numbers of Roman and early Italian antiquities. There are many libraries, including that of the Club Alpino. The marino biological station is one of the finest in Europe. Among its buildings are the Castel Nuovo, 1283; the castle of St. Elmo, 1343; the royal palace, 1600. enlarged and furnished as a summer residence in 1900; Castel Capuano; the Cathedral of St. Januarius, completed in 1316; several fine churches, and many theatres, notably the San Carlo, rebuilt after the fire in 1816. Originally a Greek colony named Parthenope, a new town, Neapolis, was built by a later colony. Naples was captured by the Romans in 326 B.C., and became a resort of the upper classes on account of its Greek culture Gasses on account it is greek culture and climate. Virgil composed the Georgics here, and was buried at Posillipo. It was taken, 536 a.D., by Belisarius, recaptured by Totila in 542, again taken by Narses in 553. It remained under the E. empire till 572, became a duchy in the beginning of the 8th century, and capital of the kingdom of Naples in 1139, under Norman rule. It was a bone of contention between the houses of Anjou and Aragon, which gave rise to important movements in European history from the 13th to the 16th centuries. Its history is closely knit with that of Sicily (the two kingdoms being finally united in 1504), until both were absorbed in 1861. See A. Norway, Naples, Past and Present, 1901; C. E. Clement, Naples, the City of Parthenope, and its Environs, 1894; E. Lemonon, Naples, 1910. See GARI-BALDI.

Naples, Bay of, a fine deep semicircular sweep of some 50 m. from the Isle of Ischia round to that of Capri, with a low promontory to the N., a mountainous one to the S., while Vesuvius completes, within the bay, a view world famous for its beauty.

Napoleon, a French gold coin of the value of twenty francs (16s. English money), with a portrait of Napoleon stamped upon it.

Ĩ. Napoleon (Bonaparte) (1769-1821), emperor of the French, was born at Ajaccio, in Corsica on born at Ajaccio, in Corsica, on Aug. 15. The date of his birth has been the subject of some considerable dispute, but from actual quotation from the diary of his father we are now able to definitely fix it as given above. (For details of his family, see BONAPARTE.) The early life and characteristics of the boy marked him out for a military career. His father, who had at first supported

Borbonico, built in 1586, contains the | king's expense in the school Brienne. Here he was entered as a pupil in 1779. His school-days were far from being the happiest of his life. and his character here showed itself in its moroscness and its sullenness. It was the greatest grief of his schoolboy life that every one around him was of the conquering race, because deep down in N. was the feeling that the Corsicans would ultimately win their freedom, and he had the Corsican cause at heart. He did not show any very striking ability, but was proficient in mathematics and steady in his study of his other lessons. In particular, he spent a good deal of his time in reading history. In 1784 he proceeded as a cadet to the he proceeded as a cadet to the military school at Paris, and here he studied with greater zest, since he wished to enter the artillery and was anxious for the arrival of the time when he should be able to commence the rebuilding of the family fortunes. In 1785 he was gazetted to a regiment of artillery at Valence, and in the January of the following year he commenced his duties as a lieutenant. The death of his father had left him practically the head of the family and during the years which followed the beginning of his military career, he spent all his furloughs in Corsica. and was also always planning how the fortunes of the family might be most easily and quickly repaired. It is necessary to notice here that it was not until 1793 that N. turned from Corsica to seek his career in the wider sphere, France. In 1792 he returned from Corsica to Paris, having exceeded his furlough by some four months and having taken an active part in the Paolist movements in Corsica, but the breach between himself and Paoli quickly widened after this, and trusting to the disturbed state of France, he returned there to pursue his fortunes further. His judgment of the state of Paris had not been wrong. Although by his absence he had forfeited his position, yet the revolutionary party could not afford to lose its trained officers, and so N. was reinstated with the rank of captain and also received arrears of pay-In the following year the success of Paoli and the occupation of Corsica by the English drove the Bonapartes from the island, and henceforth N. regards France as the country that is to further his interests and in which the family fortunes are to be restored. In 1793 the fortunes of the republic were very low indeed. In addition to wars with hostile external powers, France had also to fight against powers within. The royalists at the Paolists, was now on good terms powers within. The royalists at with the French governors, and was Toulon had admitted the English and able to obtain for N. a place at the the Spaniards, and N. was called in to

help the besieging forces. Here he at least laid the foundations of the greatness he soon was to be able to claim. He introduced new methods of artillery attack, methods which were peculiarly Napoleonic in use, even if not in invention, and ultimately he was in a great part responsible for the withdrawal of the hostile fleets and the recapture of the town. A number of his present with N.

The immediate , however, do not seem to carry out the however, do not seem to carry out the prediction that N.'s greatness was founded at Toulon. He was, it is true, made a general of a brigade at the end of 1793, and appointed to the command of the artillery of the army of Italy in the following year, but he also suffered arrest, and was only released by the year great influence. leased by the very great influence which was brought to bear on his behalf. In 1794 he joined the French army in Italy, and was able to make some acquaintance with the country in which he was first to command an In the same year he was arrested and charged by the revolu-tionaries of 1794, but was released again owing to the influence which he could bring to bear. In the following year he was ordered to the army of La Vendée, but did not go, on the score of ill health. He, however, went to Paris, where for a short time he watched affairs. In the September of the same year, having asked for permission to go to Turkey, his name was struck off the list of officers employed on active service. But again his opportunity came, on this occa-sion from the very difficulties of the government themselves. The populace of Paris, stung to indignation by the work and methods of the Convention, determined to put an end to it. The Convention, liable to be attacked at any moment by the National Guard, entrusted their defence to General Barras, and he chose as one of his chief subordinates the lately disgraced general, N. The famous Oct. 5, 1795, can really be taken as the first step in the rise of N. to the ∽nded emi all and l

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N.'s famous' whist of grapeshot' prepared the way for the restoration of the empire in 1801. The immediate result of the crushing of this rising was the imposition of a new constitution, the First Directory, which was still, however, essentially democratic, but which prepared the way for the ultimate changes which led to the foundation of the empire. In Jan. 1796 N. received the command of Italy, and in the same year he married Jo-6.

motion he owed a good deal to Joséphine cannot be doubted, although it is true that his plans for the Italian campaign had been accepted by the Directory. The opening of the Italian campaign marks a new era in the history of the republic. Hitherto the wars had been fought by the French for what they considered were the principles of the revolution; now all that was to cease, and the armies were given a somewhat natural interest in the campaigns which they were fighting by the hope of gaining spoil and plunder. Further. strengthened his position at the capital by the huge sums of money and priceless gifts which he despatched to the capital, and which he demanded not as plunder but as the natural spoils of the conqueror. His Italian campaign is also in many respects his most brilliant. It was noted for the dashing energy, the untiring manner which all attacks were carried Further, everything was nicely planned, nothing was left to mere chance; the two main features of the whole campaign may be taken as being rapidity and accuracy. He certainly fostered a spirit of revolution in the northern Italian states; that spirit was to help him in his campaigns, and later in the war, when threatened by an overwhelming Austrian army, he was able to depend upon an Italian legion. Slowly but surely he drove back the Austrians and Piedmontese. From the neighbourhood of Savona he drove them slowly back across the Adda, and finally, after the victory at Arcola, across the line of the Adige. The northern Italian states formed the Cisalpine Republic, the Austrians were hopelessly defeated. During the whole of this period N. was the servant of the Directory, but as has already been pointed out, the spoils of Italy gave France and the Directory a new idea of warfare, a warfare that paid for itself and had enough left to supply magnificent presents to the republic, and in proportion to the plunder so did the favour of N. grow. He was able to a very great extent to act independently of the Directory, to make his own terms, to set up his own forms of government, to depose, and to treat with the princes of the lands conquered. his ever vic-N., together with

together with his ever vic-'is war with to Leoben, peace were

which prepared the way for the ultimate changes which led to the foundation of the empire. In Jan. 1796 N. was the possibility of another revolureceived the command of Italy, and the time in France. The moderate party in the same year he married José-was becoming powerful, the royalitsphine Beauhurnais. That in this pro-

Austrians waited. But the Directory men of the state. Yet for a moment called upon N. again, and he, piqued he hesitated, and his actual coup called upon N. again, and he, piqued by an attack made on him by the council, and only too ready to do anything to further his power, came to the help of the Directory. The The Tuileries were surrounded, the obnoxious representatives were arrested, the power of the Directory was saved. N. had strengthened his own position, and had gone one step further to-wards empire. The Austrians no longer held back, the treaty of Campo Formio was signed, Lombardy was added to the Cisalpine Republic, Venetia was handed over to Austria. N. could now pursue the plans which he had ever had of a campaign in the East. Almost immediately after the signing of the treaty, N. returned to Paris. So clearly had he shown his power that the Directory was concerned with one thing only, and that was to get him away as soon as possible. He was placed in command of sible. He was pinced in command of the army of England, but he himself had resolved to go to Egypt. Why he was so intent on Egypt does not seem to be altogether clear, but forms one of those mysterious glimpses of N. the visionary. However, the Directory fell in with his plans, and he embarked his army of England for Egypt. He just escaped Nelson in the Mediterranean cantured Melta the Mediterranean, captured Malta, then in the possession of the Knights of St. John, and sailed to Aboukir Bay. Swiftly he landed his troops, the terror of Nelson still on him, and marched against the Mamelukes, whom he defeated. Then came the news of the battle of the Nile, and he determined to attempt an invasion of Syria—whether he actually content. Syria-whether he actually contemplated an attempted invasion India, in imitation of Alexander the Great, will never be exactly known-and to return to Europe via the terri-tories of the sultan. His campaign in Syria was successful until he reached Acre; this, chiefly owing to Sir Sidney Smith, he failed to take, and thence he returned to Egypt. Here news of the republic greeted him, and leaving the army in the command of Kleber, he sailed for France, landing there some six weeks later. The news from France was not, from the point of view of France, encouraging. The war in Europe was gradually going against the French, the work of the Italian campaign of N. had been wellnigh undone by the second coali-tion, the Directory was tottering to its fall, it was necessary that some drastic steps should be taken. Siéyès meditated drastic steps, and on N.'s return he allied himself with him, N.'s journey to Paris had been one of complete triumph. He was popular, and

thing might happen; therefore the he was fawned upon by all the chief d'état would probably have failed had it not been for his brother Lucien, the president of the council. He it was who kept the plot in view even when N. had been unnerved, and brought the soldiers to his aid. The constituthe soluters to his aid. The constitution perished, even as it had sprung into existence, by the sword. The new constitution gave the power into the hands of three consuls, the first consul, N., being the head of the state, with practically all the power, the other two (Cambaccher and Lebrun) being practically cinbers. ciphers.

N. was now the ruler of France:

this was the third step in the direction of empire. The popular feeling was on his side. Liberty was to be restored, the days of the old republic were to be revived. The insurrections in the country were immediately put down, overtures of peace held out to Austria and England; the first impression was to be a N. aiming at peace for his country, not universal empire. Now he determined upon a campaign which should bring glory to his name, and in that way add to the security of his tenure of power. The campaign against the Austrians ended with the battle of Marengo, that battle in which the Austrians, after gaining practical victory, lost owing to the magnificent cavalry charges of to the magnineeth eavarry charges of Kellerman; Hohenlinden, a victory of Moreau, followed. Then came the treaties of Lunéville (1801) and Amiens (1802), and also the concordat with Rome. The period between the election of N. as First Consul and his election as First Consul for life is the period during which practically the whole of the old civil institutions of France were restored. N. had established his power in France by practically dictating peace to the world; now he was to become the sole ruler of France. In Aug. 1802, as a reward for the peace, N. was created First Consul for life; from that moment, the object of peace having been ac-complished, N. was again anxious for war. War almost at any price. His aggressions in Europe soon led to the resumption of hostilities with England, and he thereupon seized Han-over and prepared the way for the policy of aggression which he was about to adopt towards Germany. In 1804 he caused himself to be declared emperor of the French, a position for which he had long been preparing the way, and which, having got rid of all possible dangers, he now thought fit to assume. His gigantic preparations for the invasion of England ceased with the battle of Trafalgar (1806),

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but his policy of aggression had made | reached Vilna; he hesitated and then struck his camp at Boulogne, just before Trafalgar, only to shake Europe by his land victories against Austria and Russia. Violating the neutrality of Prussia, he overwhelmed the Austrians at Ulm and marched into Vienna (1805). The Russians, impatient of delay and not waiting for reinforcements from their allies, were struck down at Austerlitz (1805). These two blows killed Pitt, established the empire of N., overthrew the ancient Holy Roman Empire, and established the Confederacy of the Rhine under Napoleonic influence. Peace negotiations were entered into and failed. Prussia, stung by her contemptuous treatment by N., appealed to arms, and was flung down, crushed and disheartened by the terrible blows of Jena and Auerstadt. Eylau and Friedland, battles fought against Russia, for the moment

and until the end was in sight. The continental system by which Napoleon sought to conquer Britain was in full force: he himself was the dictator of Europe, the conqueror of the Hapsburgs, the equal of the ancient line of emperors; his star had indeed reached its highest point. From this point the downfall of N. can practically be traced. In it there are practically three steps. First, the attempted annexation of Spain; secondly, the invasion of Russia; thirdly, the rising of the powers of Germany against him. In 1808 he forced the abdication of the Spanish king, and placed his brother Lesenh on the Spanish throng. The Spanish king, and placed his brokher. Joseph on the Spanish throne. This led to war with Spain, a war in which the national spirit of the Spaniards was aided by the arms of England, and which for the rest of the period occupied a fair proportion of the French troops. War had again broken out with Austria, but Prussia was still kept down by the power of Russia. Austria was defeated at Ratishon and then at Wagram, and in 1809 peace was again signed. But Russia was offended by the terms of the peace, and this later caused con-siderable trouble. In April 1810 N. married the Archduchess Maria of Austria, and a son was born in the following year, to whom the title of King of Rome was given. The

possible another coalition, and he went on. He defeated the Russians at Smolensk; again he hesitated, yet again he went on and reached Moscow, where he stayed until October, the town being in the meantime burned by the Russians. Then he determined on the terrible retreat from Moscow, and although the retreat was actually carried out, five-sixths of the army he had taken with him had. perished. The next move was the practical coalition of all nations against N. Russia and Prussia, then most of the German states, and finally Austria, fell into line. The allies, with their half a million men, now turned to face Napoleon, whose army was in a very discouraged state. The allies held their own, now inflicting a de-feat, now sustaining one, until came the great contest at Leipzig which crushed N. and drove him back across the Rhine. The Rhine Confederacy was dissolved, N.'s star had lowered still more in the horizon. The negotiations for peace which were opened almost immediately after this falled, and the allies invaded France. In spite of a contest full of genius, in spite of many victories, slowly but surely N. was driven back, and the allies closed round Paris. The Austrians, Russians, and Prussians were all advancing and closing round

sovereignty of that island, and the Bourbons, in the person of Louis XVIII., were restored to the throne of France. But the long wars had loft Europe in a very unsettled state, and the name N. was still one to conjure with, so that in Feb. 1815 N. again decided to try and revive his fortunes in Evence and Europe. He was enin France and Europe. He was enthusiastically received in France, the Bourbons were driven out; Europe declared war against him, but only Prussla and England were ready to meet him. N. determined to strike and to strike quickly, to separate the armies and defeat them thus in detail. He defeated Blucher at Ligny, but Blucher had a proviously arranged plan with Wellington, and while Wellington fell back on Waterloo. Blucher pushed on to come up with him as soon as possible, and Grouchy, despatched by N. to keep Blucher back, fought only with the rearguard pursuance of his continental policy of the Prussian army. Wellington towards England still further aggrahed Russia, and in 1812 N. decided arrival of the Prussians swept the to invade that country. His star was indeed setting; the N. of the Russian headlong rout. N. fied to Paris, where campaign was not the N. of the early days of the century. His army attempted to escape and get to the

U.S.A., but finding this impossible, on July 15 he surrendered to Capt. Maitland of the Bellerophon at Rochetort. He was sent to St. Helena, about his famous but violently bloody where he spent the rest of his life in cound'état. France for the time seemed exile, dying there on May 21, 1821, of cancer in the stomach. See Life by Lockhart

Napoleon II. (1811-32), the son of Napoleon I. by his marriage with Maria Louise of Austria. He was created Duke of Reichstadt and King

of Rome by his father.

Napoleon III. (Charles Louis Napoleon Bonaparte) (1808-73) was the third son of Louis Bonaparte, who was created by his brother king of Holland. His mother was Hortense Beauharnais, the step-daughter of the Emperor Napoleon. He was brought up principally at the castled of Arenenburg, his mother's residence in Switzerland, and was given a very sound education. sound education. He was something of a scientist and an engineer, and he also studied a good deal of history. In 1831 he took part in one of the

the first Napoleon's only son, the Duke of Reichstadt, he became the head of the family, both his elder brothers being dead. During the next few years he published a good deal of literature, dealing principally with his political ideas. During the reign of Louis Philippe, and taking advantage of the disturbed state of France, he made two attempts to establish himself in that country. The first, in 1836, was easily repressed, and he was deported to America; the second, in 1840, when he landed at Boulogne, ended in his being condemned to life-long imprisonment in a French for-tress. There he continued his writings, and added to his already large output of Bonapartist literature. After just over five years' imprisonment he managed to make his escape, and returned to London. Taking advantage of the revolution of 1848, he hurried back to France, where he had been elected as a deputy on the Con-

by a majority of some five to one over his opponent, General Cavaignac. At first there seemed to be some possioath of allegiance to the republic, here nearly to soon showed his hand. He rapidly Napoleon, assumed the control of the army, only son practically every post of importance BONAPARTE.

to acquiesce; he was in the same month proposed as candidate for ten years as president and elected to the position by a majority of 7,000,000. He now made no pretence at disguising his reactionary measures. guising his reactionary measures. Posing as the candidate and representative of the people, he rapidly developed into a despot, who gagged the press and did his best to repress liberty. In 1853 he married the Countess Eugenie de Montigo. still continued to pretend himself the friend of democracy, but his inter-ference in Italian affairs led to the annexation of Nice and Savoy to France, whilst his attempt to impose a monarch on the Mexicans led to one of the most pathetic tragedies that the world has witnessed. His foreign policy at times appears brilliant, and he was almost always in close alliance with Great Britain, e.g. during the Crimean War. But he realised, probably in a greater degree towards the end of the reign, the necessity for turning the minds of Frenchmen towards foreign conquest. By 1865 it became apparent that his influence was on the wane. The book which he had written for the purpose of extell-ing his own methods of government did not meet with absolute, unalloyed success, and he realised that a more liberal policy was necessary. This he tried to adopt, but too late. In 1870, realising that his main support, the army, was beginning to fall away in its allegiance, he made a last attempt to rally them. He interfered in the question of the Spanish succession, for which a prince of the house of Hohenzollern was a candidate, and although the Prussians withdrew their prince, events led on to declara-tion of war. N. was unaware of the awful state of his army. When he declared war he was firmly convinced that the French would easily gain Berlin, but his nearly 300,000 men were opposed by 500,000 Prussians, stituent Assembly. Having taken his seat he almost of the Rhine. He was crushed at but was again constituencies. Metz, and finally came the crowning determined to determined to determine to determine to determine to describe the presidency, and was elected after the battle, N. surrendered to the by a motivity of core of the core Prussian king, and was kept a prisoner until the end of the war. In the meantime his empress had retired bility of concord in France, but the to Chislehurst in Kent, and here in president, although he had taken the 1871 she was joined by N., who died here nearly two years later.

Napoleon, Eugène Louis (1856-79),
only son of Napoleon III., see

III., see

Napoleon, Prince Lucien (1775-1 1840), see Bonaparte.

Napoleona Imperialis, see Belvisia. Napoleon-Vendée, see La Roche-SUR-YON.

Napoli di Romania, see NAUPLIA.

Nara, a tn. of Hondo, Japan, 251 m. from Osaka by rail. It has ancient temples and several shrines and relics Toys and fans are of great age. Pop. 32,732. manufactured.

Narainganj, a tn. in the Dacca dist. of Bengal, India, on the Lukhmia R., 10 m. S. of Dacca. It exports jute. Pop. 24,472.

Narandera, a municipal tn. of New South Wales, Australia, on the Murrumbidgee R., 280 m. S.W. of Sydney. Has various manufs. Pop. 2300.

Narasinha, in Hindu mythology, the fourth avalar of Vishnu, the reincarnation of the god in the form of man in order to put to death Hiranya-Kacipan, king of the Daityas, who was oppressing mankind.

Narayanpet, a tn. in the state of Haidarabad, India, 70 m. S.W. of the city of Haidarabad. Pop. 12,000.

Narbacan, or Narvacan, a pueblo of Luzon, Philippine Is., near the W. coast of the prov. of Ilocos. Pop. 16,500.

Narbada, or Nerbudda, a riv. of India, rising in the Central Provinces, a riv. of flowing in a generally W.S.W. direction till it falls into the Gulf of Camtion the falls have the day of an or can-bay, 28 m. W. of Broach. Length 750 m. Area of basin 39,260 sq. m. Navigation is impeded by rocks and shallows.

Narberth, a market to. of Pembrokeshire, Wales, 10 m. E. of Haverford-There are the ruins of a Norman castle in the neighbourhood, stone

quarries and mines. Pop. (1911)1105. Narbonne, a city in the dept. of Aude, France, 37 m. E. of Carcas-sonne. It is connected with the Mediterranean at La Nouvelle, 13 m. distant, by the Canal du Midi. 1t had a notable cathedral, now the church of St. Just, begun in 1272, and con-nected by a ruined cloister with the archiepiscopal palace, now used as a museum of art and archæology. has a large trade in red wine and spirits, and a celebrated white heather There are distilleries, tanneries, potteries, and manufactures of verdigris, bricks, and tiles. Pop. 23,289.

Narbrough, Sir John (1640-88), an English admiral, born in Norfolkshire. In 1670 he conducted an expedition through the Straits of Magellan, and three years later was made rear-admiral and knighted. In 1674 and Tripolitan pirate ships. His last yellow.

expedition was that to the W. Indies in 1687, and it was while superintending the recovery of a treasure ship (off St. Domingo) that he was attacked by fever and died.

Narceia, or Narceine (C23H22NO), a somniferous poison prepared from opium bases. Practically insoluble in cold water, soluble in alcohol and hot water, insoluble in ether. Yields narceic acid on oxidation with potassium permanganate. It is decom-posed by the stronger and concen-trated acids. Formula differs from narcotine in containing four more equivalents of water.

Narcissus, a youth in Greek mythology famous for his beauty. He was beloved by many, including the nymph Echo (q.v.), but rejecting all their advances was punished by the gods, who caused him to pine away for love of his own image, which he saw reflected in a pool. He was changed into the flower which bears

his name.

Narcissus, a genus of hardy bulhous plants (order Amaryllidacew), and including some of the most beautiful garden flowers. Their production is, in itself, a considerable industry, and single bulbs of new and specially attractive varieties sell for £5 to £20 a bulb, and even more. The varieties of the various species are so numerous that they have been classified into that they have been cassaned moo three sections or groups: (1) Magnicoronati (trumpet daffodis), (2) Medio-coronati (star N.), (3) Parvicoronati (poet's N.). The first group is typified by N. pseudo-narcissus, the common daffodil or Lent lily, the only British representative of the genus. In this section, the corona is tunnel-shaped or cylindrical, as long as, or longer, than the perianth segments. It includes N. bulbocodium, the hoop petticoat daffodil. second section has the corona cup-shaped about half as long as the perianth segments. In this are inperianth segments. In this are included N. incomparabilis, the challec-cup daffodil; N. triandus, angol's tears; and N. juncifolius, the rush-leaved daffodil. The third section have the corolla small or saucershaped, and includes N. poeticus, the poet's N.; N. tazetta, the polyanthus N.; and N. jonquilla, the jonquil Speaking generally, the cultivation of Ns. is simple. The bulbs do best in a good loamy soil free from fresh animal manure, and the earlier they are planted the better. A general rule in planting is to set the bulbs about one and a half times their length deep in the soil. Many Ns. he commanded another expedition to bear forcing well, and bloom can be the Mediterranean, and was success-had from November. N. bulbs should ful in destroying several Algerian not be litted till the leaves are quite

Narcissus Fly, or Merodon equestris, a 15th century cathedral. a dipterous fly, giving rise to larve which do very serious damage to narcissus bulbs. It appears between May and July, and lays its eggs between the leaves and on the ground, even tuilly becoming organ and the resulting larve bore into the bulbs and feed want them until the property and the resulting larve bore into the layers and feed want them until the property and feed want them. bulbs and feed upon them until they are eaten out. The fly is somewhat like a bee, about 1 in. long and with variable stripes of red, yellow, or white, and with a black band across the thorax, but is distinguished by its two-winged character and the absence of the long black antennæ found in all bees. The flies are best caught with a net when they settle for egg-laying, or can be trapped with saucers of treacle or honey. Newly bought bulbs should be carefully examined, and sickliness in plants investigated, so that all infested bulbs can be lifted and destroyed. The occurrence of the pest must be notified to the Board of Agriculture.

Narcotics are drugs which produce stupor if the dose is increased beyond a certain limit. The most important member and the type N. is opium. The alkaloids obtained from opium, alcohol, belladonna, henbane, Indian hemp and ablant all have a primary

e poisonous

power of inducing sleep, some are called 'hypnotics' or 'soporifics' (e.g. sulphonal), while others which alleviate pain are called anodynes

(e.g. antipyrin).

Narcotine (C₂₂H₂₃NO₂), an alkaloid occurring in opium. Discovered in 1803, and thought to be the stimulating principle of opium, but it has really little activity as a narcotic. It is nearly insoluble in water, sparingly so in alcohol, and readily soluble in chloroform and ether. It has slightly alkaline properties, is a derivative of benzyl-isoquinoline, and has a large number of decomposition products, of which 'vanillin' is well known as the flavouring principle of vanilla. Its salts are not readily crystallisable, are more bitter than morphia, and its sulphate is used instead of quinine in India.

Nard and Nardostachys,

SPIKENARD.

Nardi, Jacopo (1476 - c. 1555), an Italian historian, born at Florence. He first served in the army, and afterwards held a civil office in Florence. In 1527 he was sent as an ambassador to Venice. His work entitled Storia della Città di Firenze dell' anno, 1494-1531, published in 1582 (and a second edition in 1584), forms a sequel to that of Machiavelli.

Pop.

Nares, James (1715-83), a composer, born at Stanwell, Middlesex. He studied music under Dr. Pepusch, eventually becoming organist of York Cathedral. In 1756 he became organist and composer to the king, and at about the same time received his degree as Mus. Doc. at Cambridge, In the following year he was appointed master of the choristers of the Chapel His compositions, mostly Royal. church music, include a number of anthems.

Nariad, or Nadiad, a tn. of Bombay, India, 30 m. N.N.E of Cambay; has a large trade in tobacco and ghee.

Pop. 32,000.

Narni, a tn. and episcopal sec. prov. of Perugia, Italy, 65 m. N. of Rome. It has a 13th century cathedral, and was a bishop's see for 1500 years. There are mineral springs near, and many Roman remains. Pop. 13,000. Narrabri, a tn. of New South Wales, Australia, 270 m. N.W. of Sydney.

Pop. 3000.

Narragansett Bay, an inlet on the S.E. of Rhode Is., U.S.A. It is nearly 28 m. long and 3 to 12 m. wide. It encloses a number of islands, the largest of which is Rhode Is.

RHODE ISLAND.

Narragansett Indians, a nearly extinct tribe of Algonquin stock, who formerly roamed Rhode Is. and the W. shores of Narragansett Bay. They manifested friendliness for the ori-ginal settlers of Rhode Is. but later became hostile, and were defeated by the English governor, Winslow, in 1675.

Narragansett Pier, a summer resort, 9 m. W. of Newport, Rhode Is.,

U.S.A. Pop. (1910) 1250.

Narrows, The, a channel of U.S.A.,
8 m. S. of New York, between Long Is. on the E. and Staten Is. on the W. It forms one of the principal entrances to New York harbour. Narses (c. 472-568 a.D.), a cele-

brated general and statesman of the Byzantine empire. He was an Armenian by birth. In 538 he was sen' to Italy to ac' in council with Belisarius against the Goths. quarrelled with the general and was seerecalled in 539, but on the recall of Belisarius in 552, N. was appointed to command in Italy, and at a fierce engagement at Tagina defeated the Goths and killed their king. Totila. In 553 he defeated Teja near Sorrento and took Rome. He was made exarch of Italy and fixed his court at Ravenna, and until the death of Justinian in 565, administered the affairs of Italy with ability and Nardo, a tn. of Italy, prov. of vigour. At the accession of Justin he Lecce, 24 m. W. of Otranto. It has was accused of avarice and extortion

and dismissed. After this he was duke and prime minister 1844-16; accused of intriguing with Alboin, ambassador at Paris, 1847; head of King of the Lombards, for a new invasion of Italy, but his share was 1864-65. With O'Donnell he supnever proved, as he died at Rome in 568 before the Lombard invasion. Madrid, 1866; and was minister, with Sec Gibbon, Decline and Fall (ed. 1896-1900). See also Goths and JUSTINIAN.

Narsinghour: 1. The cap, of a lowes its rise to the construction of the

Narsinghpur: 1. The cap. of a dist. of the same name, in Central Provinces, India, 50 m. W.S.W. of Jabalpur. It is the seat of the cotton and grain trade of the Narbada Valley. Pop. 12,000. 2. The district occupies the upper part of the Narbada Valley, where extensive grain crops are raised. Coal is mined in the district (at Mohpani), and there are manufs. of brass work, iron ware, cotton, and silk. The Great Indian Peninsula Railway traverses district. which has an area 1977 sg. m. and a pop. of 315,000.

Narthex, a colonnade outside the western doors of basilican and certain other churches. In early times it formed part of the atrium, but on the disappearance of this feature it frequently remained. It was the place for the penitents who were not allowed to enter the church itself.

Narva, or Ivan Gorod, a seaport and fortress of Russia, on the R. Narova, in the gov. of St. Petersburg, and 90 m. W.S.W. of St. Petersburg city. It was founded in 1256. Its fortress, Ivan Gorod, was abandoned in 1864. There is a cathedral and an old town hall (1683). The falls of the river afford water-power for driving paper, cotton, woollen, and linen mills and steam flour mills. Pop. 18,000.

Narvaez, Panfilo de (c. 1480-1528), a Spanish soldier, born at Valladolid. He went to America, and from 1512 was under Velasquez in command of an auxiliary force in the conquest of Cuba. In 1520 he was sent to super-sede and punish Cortes, but was defeated at Cempoala and deserted by his army. Having returned to Spain he was appointed governor of Florida in 1526, but was drowned in 1528 in the Gulf of Mexico.

Narvaez, Ramon Maria, Duke of Valencia (1800-68), a Spanish general and statesman, born at Loja, Spain. N. entered the army in 1815; supported the Constitutional party, 1822-23; served against the Carlists, 1822-23; served against the Carlists, is being generated, then ammonia 1834; completely defeated Gomez at will be formed.

Majaceite, Nov. 1836; opposed Espartero, and was obliged to fice to France about 1839, where he was afterwards joined by Queen Christina. He started a revolution in her favour and entered Madrid, 1843; the same year he declared the majority of Isabella II. and became lieutenant tect, born at Cardigan in Wales. He successful II. and became lieutenant provements in London. He planned

owes its rise to the construction of the Ofoten railway, completed 1903, and is the port for the shipping of iron ore.

Pop. 5000.

Narwhal, or Sea Unicorn (Monodon monoceros), a cetacean, allied to the dolphins and porpoises. The male has one-almost invariably the leftof the teeth or tusks in the upper jaw extraordinarily developed into a spirally furrowed horn of pure ivory from 6 to 10 ft. long. This is the longest tooth found in the Mammalia. The adult animal is from 10 to 16 ft. long. It has a grey back, mottled with black, the under parts being much lighter, but also spotted. It has a blunt short head, no dorsal fin and very small flippers, but is very active and a rapid swimmer. It is peculiar to the Arctic Ocean, though it occasionally strays as far S. as British seas. The oil is valuable and the flesh edible.

Narynsk, a tn. and fort of Russian Central Asia, on the R. Naryn, 68 m. from the Russo-Chinese frontier. commands the route, through Terekti Pass, between Russian Central Asia and Kashgar.

Nascent State. Gases in the free state usually consist of molecules containing two or more atoms. These atoms are held together by a force of attraction which, it is natural to suppose, must be overcome before chemical action can be effected. So it would be supposed that gases, which have just been liberated from combination and before the atoms have had time to combine into molecules, would be more chemically active than after combination into molecules. This is found to be so, and chemists use the 'nascent state' to define the condition of substances which so act at the instant of their liberation from combination. Ordinary nitrogen will not unite with hydrogen, but if a solution of a compound of nitrogen be poured into a flask in which hydrogen is being generated, then ammonia

repaired and House, from which his entrance gateway, known

as the Marble Arch, was removed to Cumberland Gate, Hyde Park; laid out Regent's Park, and designed the terraces along the edge of the park. The Brighton Pavilion is also a speci-

men of his work.

Nash, Richard, or 'Beau Nash' (1674-1762), born at Swansea. He made his living by gambling, and was noted for his extravagance. In 1705 he went to Bath, where he established the Assembly Rooms and became the recognised autocrat of the town, and was admired for his manners and He was also mainly instrumental, with Ralph Allen and Dr. Oliver, in establishing the mineral-water hospital at Bath. See Life by

Rougher Hospital at Bach. See Life by Goldsmith (1762).

Nash, Thomas (1567 – 1601), an author, born at Lowestoft. His first publication was an acrid review of recent literature profixed to Greene's Mountain the head storage of Menaphon, which he discussed at f Absurdi-

s engaged

rsy for a time, but in 1792 published Pierce Pennilesse, his Supplication to the Divell as a reply to the savage denunciations of Richard Harvey. nunciations of Richard Harvey. These were followed by Christ's Tears over Jerusalem; Strange News; The Terrors of the Night, notable for the praise of Daniel's 'Delia'; and The Unfortunate Traveller, or the Life of Jack Willon, the best novel of adventure in England before Defoe. Besides these he published Have with you to Saffron Walden, 1596, an onslaught on Gabriel Harvey; The Isle of Dogs, a comedy in which he attacked the current abuses in the state, and for which he suffered imprisonand for which he suffered imprisonment in the Fleet: Lenten Stuffe, 1599, an amusing description of Yarmouth; and Summer's Last Will, a comedy (1600)

Nashua, a city of New Hampshire, co. seat of Hillsboro co., U.S.A., on the Merrimac R., 14½ m. from Manchester. There are manufs. of sheetings and shirtings, boots, shoes, and foundry and machine-shop products.

Pop. (1910) 26,005.

Nashville, the cap. of Tennessee, and co. seat of Davidson co., U.S.A., on the Cumberland R., 185 m. S.S.W. of Louisville. It is a great railway and commercial centre, with extensive trade in cotton and tobacco. and manufs. of cotton, flour, oil, paper, branch, although much of his time woollen goods, leather, etc. It is also the seat of many educational institutions, including Vanderbilt University, Nashville University, Fisk University, novels. He was a member of the and Walden University (founded as original Society of Scottish Artists,

Parent Street hat Carlton House | Central Tennessee College). Here in 1864 the Federals defeated the Confederates. N. was founded in 1780 incorporated as a tn. in 1784, chartered as a city in 1806, and made the cap. of the state in 1843. Pop. (1910) 110,364.

Nasik, a tn. and dist. in the cen-

tral d The t famo

age. In the vicinity are some ancient Buddhist caves. There are manufs. cotton goods, brassware and

copperware, and mineral waters. The dist. has an area of 5860 sq. m. Pop. (tn.) 22,000; (dist.) 820,000.

Nasirabad: 1. Or Nusseerabad, a tn. of Bengal, India, cap. of the Maimansingh dist., 74 m. N. of Dacca. The earthquake in 1897 destroyed the church and high school. stroyed the church and high school.

Pop. 15,000. 2. A tn. of Bombay,
India, in the dist. of Khandesh,
120 m. S.W. of Indore, noted for the
manuf. of glass bangles. Pop. 13,000.

3. A tn. and cantonment in the dist.
of Aimere, Rajputana, India. Pop.
23,000. 4. A tract of country in
British Baluchistan, acquired from
the Khan of Kelat in 1903 on payment of an annual sum of about ment of an annual sum of about £7300.

Nasir - ed - Deen - Mohammed - Ibn-Hassan (c. 1200 - c. 1276), a celebrated Persian astronomer, born at Toos in Khorassan, and was appointed superintendent of an observatory at Azerbaijan. He wrote the Ilchanic Tables, somewhat resembling those of Ptolemy.

Nasmith, David (1799-1839), the originator of town and city missions, born at Glascow. In 1813 he became Nasir - ed - Deen - Mohammed -

born at Glasgow. In 1813 he became secretary to the Glasgow Youths' Bible Association and devoted himself to religious work, and from 1821-28 was assistant-secretary to no less than twenty-three charitable societies. He founded the Glasgow City Mission in 1826, the Local Missionary Society for Ireland, the London City Mission, and the British and Foreign Mission, and the British and Foreign Mission, besides about thirty-two in U.S. and Canada, and two more at Paris and Havre respectively.

Nasmyth, Alexander (1758-1840), a portrait and landscape painter, born in Edinburgh. He was pupil of Allan Ramsay. In 1778 he established himself in Edinburgh as a portrait painter, and had Robert Burns among his sitters. But having a preference for landscape painting, he ultimately confined himself to this

Nasmyth, James (1808-90), an engineer, the son of Alexander N., and brother of Patrick. In 1834 he started business for himself at Mansubsequently establishing the Bridgewater foundry at Patri-It was afterwards adopted by the Admiralty, N. having taken out a patent in 1842. He also in-He also invented a nut-shaping machine. flexible shaft for driving small drills, and an hydraulic punching-machine; he was the first to observe, in 1860, a mottled appearance of the sun's surface called 'willow leaves' or rice grains.' He published: Remarks on Tools and Machinery, 1858, and The Moon considered as a Planet, a

World, and a Satellite, in conjunction with James Carpenter. 1874. See Autobiography, ed. by Smiles, 1883.

Nasmyth, Peter, commonly known as Patrick (1787-1831), a landscape painter, born in Edinburgh. His landscapes won for him the name of the English Hobbema.' The reputation of his works has greatly in-creased since his death, indeed, one was sold at Christies' for 1300 guineas in 1892. Some of his paintings are: 'Haselmere,' 'Turner's Hill, East Grinstead,' 'Cottage in Hyde Park,' 'A Country Road,' 'A Cascade,' 'Sir Philip Sydney's Oak, Penshurst,' 'View of St. Albans.' He painted with his left hand.

Naso, a tn. of Sicily, 44 m. W. by S. of Messina. Pop. 3000.

Naso, see Ovid

Nasratabad, or Huseinabad, the cap. of Seistan, Persia, 275 m. E.N.E. of Kerman.

Nassarawa: 1. A prov. of Northern Nigerio, situated on the northern bank of the R. Benue, with an area of 18,000 sq. m. Cotton is extensively grown, other products being rubber, palm kernels, and beni seed. Pop. 161,000. 2. Tn., cap. of the prov., 90 m. N.E. of Lokoja. Pop. 10,000.
Nassau: 1. An independent duchy

up to 1866, in which year it was in-corporated with Prussia and now forms part of the prov. of Hessenorms part of the prov. of Hesse-Nassau. Its former area was 1830 sq. m., and at the time of its incor-poration had a pop. of 465,636. The Taunus Mts. rise in the S. to an eleva-tion of 2750 ft. The Rhine, Main, and the Lahn are the chief rivers, but there are numerous small streams. The hills are well-wooded, abounding in game, and the district is rich in minerals. There are numerous mineral springs, and the soil is very

and an associate of the Royal In-stitution.

Namyth, James (1808-90), an the dukedom to Frederick William. Formerly New Providence. situated in the E. end of the island of New Providence. It is the chief town of the Bahamas, and has trade in pearls, fruit, salts, and sponges. Pop. 10,000.

Nassaugor Danger Islands, a cluster of islets in the Union group, Polynesia

Pacific. Area 7 sq. m. Pop. 1050.
Nassau or Pagi Islands, are two islands belonging to the Mentawi chain, off the W. coast of Sumatra. They are of volcanic origin, and have an irregular surface, which is densely wooded. The chief products are cocoa-

nuts, sago, trepang, and timber.

Nast, Thomas (1840-1902), an
American caricaturist, born at Landau, Bavaria. In 1860 he was sent
to England to draw for the Illustrated
News the Heenan-Sayers prize fight, but it was his clever cartoons in Harper's Weekly which made him famous, and his purely political and personal caricatures (1871-73), when he attacked the Tweed Ring in New York city, greatly added to his reputation. In 1894 he became a member of the staff of the Pall Mall Gazette, and in 1902 was appointed United States consul at Guyaquil, where he died of yellow fever. published Nast's Almanac.

Nasturtium, a name wrongly but persistently given to the two garden species of Tropwolum, majus and minus (q.v.). The true N. is the common watercress (N. officinale) (q.v.).

Nastved, a tn. of Seeland, Denmark, about 14 m. N.W. of Prastö. Pop.

7150. Natal, an original prov. of the Union of S. Africa, lies in the S.E. portion of the continent, and is bounded on the E. by the Indian Ocean. It derives its name from its being discovered by the Portuguese on Christmas Day. The province has an estimated area of 35,371 sq. m. Zululand (10,461 sq. m.) was annexed to N. in 1897, and the northern districts of Vryheid, Utrecht, and part of Wakkerstroom, which formerly formed part of the Transvaul, merly formed part of the management were added to N. territory in 1903. The seaboard of N. is about 360 m. in length, and has only one bay of importance, that of Durban. The importance, that of Durban. The country rises inland in a succession of terraces from the low and sandy coast, culminating in the heights of the Drakensberg, whose highest peak is Mont aux Sources (over 11,000 ft.). Majuba Mt. (7000 ft.) lies S.W. of the productive, yielding corn, hemp, flax, pass of Laing's Nek, which leads into tobacco, vegetables, and fruits, in-Transvaal territory. The country is cluding grapes, from which the highly watered by the Tugela, Buffalo, Klip, esteemed Rhenish wines are made. Mool, and other rivers, which are

useful for irrigation purposes, alclimate is sub-tropical on the coast but somewhat colder inland. The The winter begins in April and ends in September; the average number of rainy days being thirteen. In the summer season the thunder-storms are very frequent and severe. annual rainfall on the coa't is about 32 in. Inland, it varies a good deal in different districts, and is greatest in summer. The S.E. is the provailing wind in the summer months as in the Cape of Good Hope. Occasionally the sirocco, or hot wind, from the N.W. is felt, which generally ter-minates in a thunder-storm. The leading crops for export are sugar, tea, maize, and wattle bark; other crops include lucerne, sweet potatoes, pumpkins, and vegetables. Cotton cultivation has been recently introduced and is promising; tobacco is also grown. The province is rich in mineral wealth, and asbestos, copper ore, fireday, gold, graphite, gypsum, iron ore, lead and silver ore, gypsini, not off, lead and she'r off, mitre, oil shale, limestone, and marble, manganese ore, mica, nickel ore, and tin ore are found. Coal is mined in the Klip R., Vryheid, and Utrecht districts. The wild animals still found include the leopard, panther, jackal, hyena, wild cat, hippopotamus, crocodile, different species of antelope, but the larger animals are gradually disappearing. There are many varieties of snakes, including the python. The birds include the vulture, eagle, birds literate the vinture, easie, secretary-bird, parrot, flamingoes, many of them of brilliant plumage but mostly songless. The total revenue for 1910 was £4,293,737, and the expenditure £3,530,349. The total value of the exports, £3,916,475, and of the imports, £7,789,919.

The population of Durban, the

principal scaport of the province, is 72,512, including over 33,000 Europeans. Pietermaritzburg (the seat of government) has a population of 30,539, including about 15,000 Europeans. Ladysmith (q.v.), Dundee (2811), and Newcastle (2950) are other towns. Communication is easy; in 1912 the total railway mileage open was 1052½ m., excluding the 24 m. from Van Reinen to Harrismith, and several new railways are in course of construction. At the end of 1990 there were 40½ post-offices and agencies, 1996 m. of telegraph line, and 186 m. of telephone line. Since the formation of the Union, the statistics of N. have been included in those of the Union.

The total population for 1911 was 1,191,958, including 98,582 Europeans, 141,568 Indians and Asiatics,

and 951,808 natives.

Administration. - By the South Africa Act, 1909, which constituted the Union of S. Africa, inaugurated in 1910 by the Duke of Connaught, N. sends eight members to the Union Senate and seventeen members to the House of Assembly. It has an elected Provincial Council of twenty-five members. These twenty-five elect four members to act with the administrator as the executive. administrator is chosen bу governor-general of the Union in Council. He holds office for five years. The government of Zululand is in the hands of a provincial council and an administrator appointed by the governor-general. Its executive consists of four members. There is a native High Court in N. with five judges to deal with peculiarly native cases.

Education, with the exception of higher education, which comes under the control of the Union government, comes under the provincial administration. There are in N. 2 government high schools, 2 preparatory schools, 5 technical institutes, 2 art schools, 58 primary schools, 5 Indian schools, 2 government schools for coloured children, 124 government-aided schools for European children, 30 Indian, 178 native, and 17 coloured schools which receive

government aid.

Defence.—In 1911 there was

volunteer cadet corps, numbering 150 senior cadets and 3580 school cadets. By the South Africa Defence Act of June 1912, every citizen between the ages of seventeen and sixty is liable to render personal service in time of war, and those between twenty-one and twenty-five are liable to undergo a proscribed peace training with the active citizen force.

Religion.—The Christian population consists of members of the Christian populabishopric at un Catholics Presby-

terians, and Independents.

History.—The coast of N. was first sighted by Vasco da Gama on Christmas Day, 1497, who, in consequence, named it N. (die Natali). An unsuccessful attempt of the Dutch to found a colony there was followed by a British attempt in 1824. The colony was, however, broken up in 1823 by Dingaan, King of the Amazulus. In 1835 Dingolf land to formed a

In 1837 the Boers, trekking northward from Cape Colony, first entered N., and having crushed the Zulus at Blood R., December 1838, attempted to establish a republic. In 1843, however, the British government annexed N. to Cape Colony and the Boers moved westwards to the Transvaal. In 1856 N. was declared an independent colony. In 1879 Cetywayo, King of the Zulus, was defeated and captured, and in 1897 Zululand was annexed to N. In 1881 the Transvaal Boers invaded the country and defeated the British at Majuba Hill In the war of 1899-1902, N. was the scene of some of the fiercest

Vryheid, and part of Wakkerstroom were added to N. In 1906 there was a formidable Zulu rising along the Tugela R., which was suppressed with

which ended in

(d. 1913). On May 31, 1910, the colony of N. was merged into the Union of S. Africa, becoming an original province of the Union. See Brooks, Natal, 1887; Ingram, Natalia, 1897; Rowell, Natal and the Boers, 1900; R. Russell, Natal (6th ed.), 1900.

Natal, a tn. and seaport of Brazil, cap, of the state of Rio Grande do Norte. Exports sugar and cotton.

Pop. 14,000.

Natal, a British armoured cruiser. It was completed in 1907, and has a displacement of 13,550 tons, a length 480 ft., and a speed of about 231 knots.

Natal, Port, on the S.E. coast of Natal, 54 m. from Pietermaritzburg :

has an important harbour.

Natalie (b. 1859), an ex-queen of Servia, and since her conversion to Roman Catholicism in 1902 has lived mainly at Biarritz, Paris, and Vienna. She was the wife of Milan I.. from whom she was divorced, and the mother of Alexander I., whom she never forgave for his marriage with Draga Maschin. She received the news of the assassination of the king and queen in 1903 in Paris, and was forbidden to re-enter thereafter Servia. Her Memoirs were published at Paris in 1891.

King & Co. The headquarte London, and the company; in all thirteen ships.

Natanz, a prov. of Persia, between Ispahan and Kashan. Pop. 23,000. Natanz, the cap. is 69 m. N. of Ispahan. Pop. 5000.

Natchez, a port of entry and the

America, on the Mississippi, 145 m. (direct) N.N.W. of New Orleans. Cotton is the chief industry. (1910) 11,791.

Natchez, a tribe of N. American Indians, whose original territory extended along the Gulf of Mexico, between Mobile and the Mississippi. They were nearly exterminated by the French in 1730. The Natchez language is extinct.

Natick, a tn. of Massachusetts, U.S.A., in Middlesex co., 16 m. W.S.W. of Boston. Manufs. include boots and shoes, baseballs, and shirts.

Pop. (1910) 9866.

Nation, The, a British weekly paper published on Saturday; was founded in 1907 in succession to The Sneaker. founded in 1890. It is a political, critical, and literary organ, on progressive lines, special attention being given to modern movements, ligious, social, and artistic. In politics it follows the opinions of its pro-decessor, The Specker, in supporting the extreme Radical wing of the Liberal party, in urging the need of social reform, and in criticising im-perialism. It is edited by Mr. H. W. Massingham, and the offices are at 14 Henrietta Street, Covent Garden, W.C. National Anthems. Patriotic hymns sung at public ceremonies and on similar occasions are of comparatively recent date. The British God Save the King assumed its present form about 1740-45, and by tradition has been attributed to Henry Carey (1692-1743), though it is possible that it developed out of an old folk song. The most important claimant to an early version of it is John Bull (1563-1628). The air has been adopted by Switzerland to the words, Rufst du, Switzerland to the words, Rufs du, mein Vaterland; by Prussia to Heil dir im Siegerkranz; by Denmark to Heil dir, dem Liebenden; by Germany to Heil dir im Siegeskranz; and by the United States to My country! 'lis of linea. Other N. A. are the French Marsvillaise, by Rouget de Lisle(1792): Austrian Gotl erhalle unsern Kaiser; Russian Boche Zaria chrany; United States, Hail Columbia, by Joseph Honkinson: Canada. The Manle Leaf Hopkinson; Canada, The Maple Leaf for ever, by Muir; and New Zealand, God girl her about with the Surges, by Reeves. National Artillery Association, The,

Natal Steamboat Line, The, established in 1861 to promote artiflery lished in London in 1850 by A capitation A capitation

government for Association who

goes through a certain course, and ammunition is provided for practice. The annual camp is at Shooburyness in September. The president of the Association is H.R.H. the Duke of Connaught; the offices are at 52 z, a port of entry and the Connaught; the offices and Adams co.. Mississippi, Queen Victoria Street, E.C.

Presbyterian Methodist, and

The Federation throughout Americ The National Cor

called the Bicycle Union, was formed in 1878, its objects being mainly (1) to govern the legislation of and arrange for races; (2) to obtain fair prices for transit of cycles by rail; (3) to secure the best interests of the

National Council of Evangelical Free the best work of Raphael, Correggio, nurches, the council of the Free and Paul Veronese. Raphael's Churches, the council of the Free and Paul Veronese. Raphael's Church Federation, founded in 1892. Madonna degli Ansidei was pur-Church Federation, founded in 1022.

To it are sent representatives from the chased from the Duke of Marlborough the various bodies which form the im 1884 for £70,000, the largest sum Federation, among which are included ever given for a single picture. There

when necessary on behalf of the the fine Veronese. The Family of federated churches.

National Cyclists' Union. An association of British cycle clubs, originally 1909 Holbein's Duchess of Milan' was purchased for the nation from the Duke of Norfolk at a cost of £50,000 by an anonymous benefactor. National Gallery of British Art, presented to the nation by Sir Henry Tate, and opened in 1897, is controlled by the trustees of the National Gallery. The Scotlish National Gallery at

roads by means of National Debt, se

National Defend Stringent precauti necessary in the case of buildings house, 1895; and Addison's Art of the where national secrets are hidden, such as torpedo buildings, mining

buildings, magazines, dockyards, etc., to prevent unauthorised persons from gaining admission. It is thus only in exceptional circumstances that a non-British subject is allowed a pass into any defence works. Passes are issued to British subjects subject to conditions, and an army or navy officer in uniform can enter any defence the more works, though not into secret portions of the buildings.

National Galleries, The. The National Gallery of London contains the most

National Gallery, 1905.

National Guard, the name given to an armed force of citizens organised for local defence. The term is applied particularly to the French garde bourgeoise, which was enrolled at the time of the Revolution. The National Assembly proclaimed in 1790 the principle of compulsory and universal complete to which all qualified citizens service, to which all qualified citizens belonged, and membership of which was in most cases a necessary corollary of the full rights of citizenship. The N. G. was abolished until 1872. Local forces in Spain Italy, etc., and

Local forces in Spain Italy, etc., and organised militia in some parts of the U.S.A., are also called N. Gs.
National Insurance. The National Insurance Act, 1911, which became law on Dec. 16, 1911, and was put into operation on July 15, 1912, introduced for the first time in this country compulsory insurance. The full title of the Bill is 'An Act to provide for Insurance against Loss of Health and for the prevention and Cure of Sickness and for Insurance Unemployment against and for purposes incidental thereto. measure, which was framed and intro-duced by Mr. David Lloyd George, has been the cause of much discussion and met with some considerable opposition in the country, and there can be no doubt that the difficulties attending its operations prosent a problem of considerable magnitude. This will be the more readily understood when it is con-sidered that it provides for the com-

larged in 1860, 1876, and 1886, stands on the N. side of Trafalgar Square. The nucleus of the gallery was the collection of thirty-eight Angerstein pictures purchased in 1824 at a cost pletures purchased in 1824 a cost of £57,000, which included seven Hogarths ('Mariage à la Mode'), Wilkie's ('Villago Festival,' three Claudes, and Titian's 'Venus and Adonis,' A considerable sum is voted annually by parliament for augmenting the number of pictures, and famous bequests include those of Beaumont (1826), C: Farnborough Joseph Turne Pcel (1871), a

The collection now numbers more than 1650 pictures, 550 of which are at the Tate Gallery, London. The gallery is particularly rich in early Italian masters, and contains some of pulsory insurance against sickness

portion of the population representing workers between the ages of sixteen seventy, whose earnings under the income tax line of £160 a year, and the few manual workers earning more than that amount. The Act provides that every employed person between the ages mentioned above whose income does not exceed £160 a year, and every person earning more than that amount by manual labour, must be insured against sickness, the fund being contributory by the worker, the employer, and the state in varying proportions, more particularly dealt with later. There exceptions, certain notably soldiers and sailors, who are dealt with under a special scheme, pension-able employees of the crown or of local authorities or of elementary schools, wives employed by their husbands, and husbands employed by their wives, and crews of fishing vessels sharing profits. In addition those persons having an income of £26 or over, independent of personal exertions, are not compulsorily insured. Apart from these exceptions. however, practically all workers, manual or otherwise, who do not pay income tax are included in the great scheme of N. I. In the case of aliens, these are also included, but the state does not contribute, and the benefits are accordingly reduced. The special scheme mentioned as applying to the army and navy enables men to join approved society within months of the commencement of the Act, and in this way they can accumulate the reserve necessary to put them on an equal footing with other members on leaving the services. The contributions are collected and the insurance made compulsory through the employers, the worker's subscription being deducted from wages, and with the employer's own paid over in a lump sum to the Insurance Fund. The method adopted in this respect is the stamping of an in this respect is the stemping of an insurance card. This card, which is printed and published by the Insurance Commissioners, is obtained by the insured person either from the post office or the society in which he or she elects to become a member. It is then handed by the insured person to the employer, who at the time of paying wages deducts the amount of the subscription required. affixing of the subscription required, affixing a stamp of the same value to the card, plus the amount of his own contribution. This card contains thirteen divisions for the thirteen weeks in each quarter, and when completed will be handed by the in-

for some 14,000,000 of persons, that card may be legally kept in the possession of the insured person, who will see that it is properly stamped as wages are paid, but for convenience it will be generally kept by the em-ployer until completion. The completed stamped cards will be sent to the State Insurance Office, as also the money realised by the sale of insurance stamps at the post office.

The required contributions are as follows: In respect of a man earning over 15s. a week, 7d., and a woman 6d. The man pays 4d. a week, the woman 3d., and for either man or woman the employer pays 3d. The state adds to these contributions in the form of the payment of a share of the cost of the benefits paid out, namely, two-ninths in the case of men and one-fourth in the case of women. This is estimated as equivalent to 2d. per week for each man or woman. In cases where the wages do not exceed 15s. per week, the worker's contributions are reduced and those of the employer increased, as follows: Wages over 12s. and not over 15s., worker's contributions 3d., employer's 4d. for a man; wages over 9s., but not over 12s., worker's contributions, either man or woman, 1d.; employer's contribution, 5d. for a man and 4d. for a woman. In the case of wages not over 9s., no contribution is payable by the worker, the emis payable by the worker, the employer paying 6d. for a man and 5d. for a woman. The rates of contribution for workers under twenty-one are uniform, the boy's subscription being 4d. for the worker and 3d. for the employer, and that of the girl, 3d. for the worker and 3d. for the employer. These rates of contribution are not applicable to Irclanding tion are not applicable to Ircland, where they differ from the above. Should an employer elect to pay his workpeople their full wages for the first six weeks of sickness, contributions are required on a reduced scale, but in taking advantage of this reduction the employer definitely binds himself to pay the full six weeks wages in the case of sickness. At the expiration of the six weeks expiration of the six weeks the worker becomes entitled to the ordinary benefits under the Act. Contributions are not required to be paid during unemployment, but through arrears the insured person suffers in benefit. Three weeks Three arrears, however, in each year through unemployment need not be made up and no reduction in benefit is suffered thereby. Moreover, this period is cumulative, so that after a number of years, during which the contributions have been paid regularly, an insured person may fall into arrears sured person to his society, who will through unemployment for a length give him a new one in exchange. The of time not exceeding three weeks in

without suffering from any reduction of benefit. The reductions in respect of arrears are by scale according to the number of contributions in arrear. Medical, sanatorium, and maternity benefits, however, are not suspended until an insured person is in arrears

of over twenty-six weeks.

The present benefits secured and provided for by the Act comprise: Free medical attendance, sickness benefit, disablement or invalidity nension. maternity benefit, and benefit, and The sickness sanatorium benefit. benefit consists of a payment during sickness of 10s. a week for men and 7s. 6d. a week for women for twentysix weeks from the fourth day of sickness; these payments being confined to persons not over fifty years of age on entry and to persons over fifty years of age on entry who have made five hundred or more contributions at the date of any claim. Persons over this age and under sixty who have not made 500 contributions are entitled to the reduced benefit of 7s. for men and 6s. for women during the first twenty-six weeks. Persons over sixty on entry are entitled to 6s. for the first thirteen weeks and 5s. for the second thirteen weeks. Persons over sixty-five on July 15, 1912, are included in the scheme, but not on any of the above terms. Facilities are given for them to join approved societies, but no reserve is placed to their credit by the state and the societies themselves will arrange to give such benefits as are possible for the amounts paid. age seventy, when the old age pension becomes payable, all sickness benefit ceases. Young persons under the age of twenty-one, unmarried, and with no dependants, receive: Boys, 6s. for the first thirteen weeks and 5s. for the second thirteen weeks; girls, 5s. for the first thirteen weeks and 4s. for the second thirteen weeks. If married or with dependants, how-ever, they are entitled to the full money benefits. The disablement or invalidity pension provides for a payment of 5s. a week during the whole term of sickness and after the expiration of the twenty-six weeks referred to above. This ceases at age seventy, when the old age pension is available. The maternity benefit provides for insured women, married or unmarried, and also the wives of insured men, the payment of the sum of 30s. In addition, if the woman entitled to maternity benefit is an employed contributor she will also receive the sickness benefit as well.

each year, during which the contribu-sumption, although it is not entirely tions have been regularly paid, confined to this, and other diseases may be scheduled for treatment by the Local Government Board and with the approval of the Treasury. The Act provides for treatment of persons suffering from consumption in sanatoria which are to be provided with the assistance of the govern-For this purpose they are putting aside a certain sum to assist the local authorities throughout the United Kingdom in respect of their erection. For their maintenance it is proposed that 1s. 3d. in respect of each insured person resident in the county should be devoted from the Insurance Fund, and 1d. in respect of each such person payable out of moneys provided by parliament. undergoing treatment Whilst sanatoria, the cash benefit, to which insured persons would ordinarily be entitled during sickness, may payable to their dependants, but in the event of there being no dependants it is payable to the insurance committee towards general purposes, or by agreement devoted to the maintenance of the insured person. During sickness and in certain conditions where it would be unsafe to disturb a sick person, the Act provides that no distress or execution may be levied upon an insured person, nor may he be ejected from his home. Where compensation is ob-tained under the Workmen's Compensation Act, no sickness benefit is payable unless the compensation under the Act falls short of the amount of the sickness benefit, in which case the compensation is supplemented in order to make good the deficiency. Approved societies .- The work of

administration in connection with the benefits described above is placed in the hands of the existing friendly societies, which are being adapted by the government. It is estimated that some 4,500,000 people are already subscribing to friendly societies or trade unions for certain benefits, and this existing organisation is being used by the government for the furtherance of the N. I. scheme. It is, however, required that these societies shall become what is known as 'approved' societies, and shall be subject to certain conditions. An approved society must not be a society carried on for profit, and where the number of members is less than 5000, it must either itself become associated with other societies or be grouped with other societies in the same county or county borough. will These requirements. it The sanatorium benefit is designed readily seen, are for the purpose for the main purpose of treating con- of dealing with any surplus funds

arising from the scheme or receiving, assistance in the event of having to meet a deficiency. The societies will deal with the Insurance Commissioners, and the minimum benefits they will grant will necessarily not be less than the minimum prescribed by the Act. Benefit funds instituted by the employers will, in certain conditions, be allowed to rank as approved societies, but a member has the right to transfer his subscription with the employer's share if he desires to do It must be clearly understood that although these societies are selfgoverning they will be under state Their assets supervision. liabilities will be valued from time to time as appointed by the Insurance Commissioners, and any deficiency will have to be made good either by a reduction of the benefits given or by a levy upon its members. follows that a surplus will be distri-buted in the shape of increased benefits to members, subject, however, to the same being submitted to the Insurance Commissioners.

It will be seen from the foregoing It will be seen from the foregoing that although compulsory, the N. I. scheme is to be effected through the ordinary self-governing friendly and insurance societies, and it follows that since such is the case there will be certain people below the average in point of health who will not be accepted for insurance by these societies. This has been provided for under the Act by making them what is known as post office or deposit contributors. In this position the member will obtain his or her insurance card directly from the post office, together with a membership book. The payments will be made in the same way as above described, and the insured person will then be entitled to the usual benefits, the state adding two-ninths, and in the case of a woman one-fourth, but these benefits will be payable only so long as the deposit lasts. If the member dies, three-sevenths, or in the case of a woman one-half, of the deposit lapses to the common fund of the deposit contributor, and the remainder he can leave at will.

It may be added here that the insurance committees may, after obtaining the consent of the Insurance Commissioners, expend more than the amount of the deposits upon medical treatment of post office con-tributors. The insurance committees regarding the public health are pro-

Commissioners will decide the number of members forming these committees, but in no case is the number to be more than eighty or less than forty. They are to be appointed in the following proportions: three-fifths who are members of approved societies and deposit contributors in proportion as nearly as may be to their respective numbers, and one-fifth to be appointed by the council of the county or county borough-of the members comprising this fifth two must be women. Two members are to be appointed by doctors resident in the county or county borough, and one member, or more if the total number of the committee is more than sixty, to be a qualified doctor appointed by the county or borough council. The remaining members are to be appointed by the Insurance Commissioners, one must be a doctor and at least two women. The insurance committees will control the expenditure in connection with sanatoria (apart from the grants for building which will be in the hands of the Local Government Board), and will administer the medical benefits. The insurance societies will dispense the money benefits only, and will pay in respect of each member resident in the county or county borough the sum of one penny towards the ad-ministrative expenses of the com-mittee. An interesting point in connection with the insurance committees is that in the event of in excessive sickness 8. certain locality they may request that the Home Office or Local Government Board should make an investigation into the circumstances, and should such excessive sickness be found to be due to unhygienic conditions in a factory or other place where workpeople are employed, the employers may be made responsible and have to refund the extra cost incurred owing to such sickness. The administration of the medical benefits is also arranged for by the insurance committees. It is their duty to secure for insured persons adequate medical attendance and treatment, medical attendance and treatment, and to this end panels of doctors are prepared, to be included on which is the right of every duly qualified medical man. The insured person is then at liberty to select his own doctor from the panel, subject to the doctor's consent. The formation of these panels has presented the greatest difficulty in connection with the test. The sum originally great are to be set up for each county and greatest difficulty in connection with county borough, and it will be part the Act. The sum originally fixed of their duties to see that the laws for the payment of doctors was 6s. ealth are pro-They will be found necessary to increase this existing local amount. It must be understood that The Insurance in regard to the medical benefits,

doctors are only allowed to prescribe; the same manner as for sickness infor their patients, and not to supply drugs, the prescriptions in every case to be made up by duly qualified chemists, of whom panels are pre-pared by the insurance committees in the same manner. The whole scheme is supervised by boards of Insurance Commissioners appointed by the Treasury. Separate boards are formed for England, Scotland, Wales, and Ireland, and have a central office, and such branch offices as are necessary, the expenses in connection with these offices being borne by the Exchequer. An advisory committee is also formed to assist the Insurance Commissioners, and these consist of representatives of employers' associations, approved societies, and others qualified for the purpose.

Before turning to that portion of the Act relating to unemployment, it may be mentioned here that un-like state insurance against sickness which has been practised in Germany, compulsory insurance against unem-ployment has never before been the subject of legislation by any govern-ment. In this respect it is in some an experiment, and consequently only applied for the present to certain trades which are cognised as being the most uncertain in the matter of employment owing to seasonal and other causes.

The trades to be covered are the following: Building, construction of works, shipbuilding, mechanical engineering, ironfoundering, vehicle manufacture, and sawmilling. Only actual manual workers over sixteen years of age are included under the Act, which came into force in July It is estimated that out of the working population some 2,500,000 workpeople were affected at the time the Act came into operation, and these engaged in trades which, as stated above, are particularly liable to times of bad trade and other conditions which render employment irregular. The compulsory contribu-tions under this portion of the Act are, for workmen, 21d. for each period of employment of a week or less, and for the employer 21d. for the same When the period of employment is two days or less, the contributions of both employers and workmen are 1d. a day. In the case of workmen under the age of eighteen the contributions are reduced to 1d. for each week or less for both em-ployer and workman. The state contributes to the fund one-third of the total contributions of workmen and employers and, in addition, bears any cost of administration over 10 per cent. Compulsion is effected in

surance, the contributions being deducted from wages. The following are the benefits which it is at present proposed the insurance shall give, viz. For workmen over eighteen years of age, 7s. per week after the first week of unemployment up to a maximum of fifteen weeks in any twelve months, and for workmen from seventeen to eighteen years of age, 3s. 6d. It is a condition that an insured man is not to receive more than one week's benefit for every once week's benefit for every five contributions pa.1 by him. If, however, a workman has been employed in an insured trade before the passing of the Act, he receives credit, in addition to the contributions by head of the contributions of t tions he has actually paid, for five contributions for each three months during which he has been in the trade up to a maximum of twentyfive contributions. Before a workman can draw benefit at all, he must have been employed at an insured trade not less than twenty-six weeks in the preceding five years. The administration of this scheme will be entrusted to the Government Labour Exchanges, to whom the workman out of employment will take his stamped insurance book and claim benefit.

It is important to note in connection with these unemployment benefits that the workman has the right to decline either 'an offer of employment in the district where he was last ordinarily employed at a rate of wage lower or on conditions less favourable than those which he habitually obtained in his usual em-ployment in that district, or would have obtained had he continued to be so employed, or, an offer of em-ployment in any other district at a rate of wage lower or on conditions less favourable than those generally observed in such district by agreement between associations of employers and of workmen, or failing any such agreement than those recognised in such districts by good employers. On the other hand, a workman is disqualified from obtaining unemployment benefits on account of his being directly involved in a strike or lock-out (he is allowed to decline to interfere in a labour dispute by accepting a situation in connection with it), or if he is out of work through misconduct or through leaving it without just cause, or while imprisoned, or if he goes into the workhouse.

In the case of trade unions which pay unemployment benefits, these may, under the Act, dispense the state unemployment benefit by coming to an arrangement to be repaid periodically out of the unem-jsubscription, six guineas. Secretary, ployment fund, such sum as appears Mr. John Henderson. to be as nearly as may be conivalent to the aggregate amount which would have been received by workmen during the period by way of unemployment benefit if no such arrangement had been made, but in no case exceeding three-fourths of the amount of the payments made during that period by the association to such workmen whilst unemployed. The association is able under this agreement to treat the contributions to the unemployment fund as if such contributions formed part of the subscriptions to the association, and may reduce the rates of members' subscriptions accordingly

In addition to trade unions which give unemployment pay, the state grants a subsidy of one-sixth of its expenses in this respect. An employer who continuously employs a workman throughout a period of twelve months, and in respect of whom not less than forty-five conwhom not less than forty-five contributions have been paid during the period, can recover one-third of the contributions he has paid, and a workman on reaching the age of sixty, who has paid 500 contributions or more, may draw out from the fund the whole of the contributions he has paid with 21 per cent comhe has paid with 21 per cent, compound interest, less any benefits that he has received.

The above is a statement of the provisions of the National Insurance Sydney. Act as originally passed. As was to be expected in a measure of such and Yosemire.

complexity and universality, the next year's working showed many opened in 1902, managed by an exdefects in administration.

ntinance i genci rson to m dical inel ' atten awai doctor.

that ' maternity benefit shall in every case be the mother's benefit,' and as a means of securing this end enacted that the receipt of the husband for the benefit money would not be a sufficient discharge unless authorised by the wife, National Liberal Club, of London,

is the headquarters in Great Britain for social purposes of the Liberal party. The club, which was opened in 1887, is pleasantly situated on the ment near Charing

the Gladoks, mainly Annual par....

National Liberal Federation. union for national purposes of all the Liberal associations of England and Wales. It was formed in 1877 as the result of a conference held at Birmingham, and called the 'National Federation of Liberal Associations. The Birmingham 'caucus' and the Central Liberal Association thus coexisted for some time. The objects of the N. L. F. are: (1) To organise political associations throughout the country on the Liberal principles of popular representation; (2) to support the Liberal party in parliament by help at election time arranging for pamphlets, etc.: Ruu (a) oo best legislation which secures the adoption of Liberal nrinciples. All the Liberal associations are affiliated to the N. L. F.: the Metropolitan associations under the title of the London Liberal Federation title of the London Liberal Federation and those of the Home Counties under that of the Home Counties Libera Federation. The president is Hon Sir J. Brunser, and the secretary, Si R. Hudson: the offices are at 4: Parliament Street, S.W. National Park, Port Hacking, Nev South Wales, Australia, has an area of 57 a.m. and horders on the secretary and confers on the secretary.

of 57 sq. m., and borders on th Pacific for 71 m. The park was se aside in 1880 for the benefit of th It lies 15 m. S.S.W. o For the National Park colonists. Alberta, Canada, see Yellowston.

defects in administration.
to remedy some of these
sible for the Amending Act of this Act dealt solely with Part I. of the principal Act. Among the most stuated at Teddington, Middleses There are five main departments.

This Act dealt solely with Part I. of the principal Act. Among the most stuated at Teddington, Middleses There are five main departments.

There are five main departments was a fine the most stuated at Teddington. Middleses There are five main departments. is at present situated at Richmond

> ment of a sman ree. (2) and department deals with questions maintaining electrical standard standard photometry, optics, thermometr, etc. (3) The engineering department investigates the behaviour of bodiunder sustained and intermitter pressure, impact, etc., and tests ror materials for the Road Board. The metallurgical department carri wooded with the co on. etit Th ١.

model vessels. laboratory is R. T. Glazebrook, C.B.,

D.S.C., M.A.F.R.S.

National Portrait Galleries. The gallery in London was founded in 1856, established at S. Kensington in 1869, and finally moved to the present building to the N.E. of the National Gallery in 1896. Its chief feature is the collection of portraits of British historical characters, the upper rooms containing portraits, arranged chronologically, of the sovereigns from Richard II., Chaucer, Shakespeare, Cromwell, and the two Pretenders, while the lower rooms contain portraits of celebrated statesmen, divines. traits of cerebrate authors men, arthur, and others. There are specimens of Van Dyck, Reynolds, Gainsborough, Romney, Raeburn, Lawrence, and G. F. Watts. There is an admirable catalogue by the first director, Sir George Scharf, K.C.B. (1820-25). For the Scattick Vational Portrait, Gallery the Scottish National Portrait Gallery see Edinburgh.

National Reform Union, an association founded in 1864 by members of the committee of the Anti-corn Law League (q.v.) to promote political re-form. It was re-organised in 1875; lectures are sent out by the union, and political literature widely distributed. The objects include the promotion of the formation of Liberal organisations, the propagation of political know-ledge, and the discussion of topical questions. The union has over 250 branches in all parts of the country; the central office is at Manchester, the London office being in Queen Anne's Chambers, Westminster, S.W. The treasurer is Mr. S. Arnold, M.P., and the secretary Mr. A. G.

Symonds, M.A.

National Review, a monthly review which is remarkable among the reviews from the fact that the editor takes a strictly party line. It was founded in 1883 for the purpose of supplying the demand for an ex-clusively Conservative publication, and has from its inception carried out that purpose. Alfred Austin edited it until 1893, when W. J. Courthope, who had been joint-editor with Austin. edited it alone. In 1898 L. J. Maxse took over the editorship, and still holds the office. The Review is published at 2s. 6d.; offices, 23 Ryder Street, St. James, London, S.W. National Rille Association was

founded in 1860, and incorporated by royal charter in 1890, to encourage rifle shooting in the King's dominions. From 1860-89 meetings were held at Wimbledon, after which they were held at Bisley. The first shot at the held at Bisiey. The mass and the first meeting at Wimbledon was fired by Queen Victoria from a Whitworth muzzle-loading rifle. The competimuzzle-loading rifle. The competi-tions at Bisley now attract marksmen rity. (7) To watch the working of the

The director of the from all parts of the world. For particulars as to prizes, range, etc., see BISLEY. The offices of the association are on Bisley Camp Ground; the secretary is Lieut.-Col. C. R. Crosse.

National

National Service League was founded in 1902 with the object of introducing a compulsory element into the terri-torial army scheme. The proposals of the league are: (1) Four months' training in camp for every ablebodied youth in the country between eighteen and twenty-one, followed by musketry practice and a fortnight's camp for three years. (2) A reserve force to be called on when necessary, consisting of the above class up to the age of thirty. (3) Military training to be included in the educational curriculum between fourteen and eighteen. The league is making steady progress. The president is Lord Roberts, V.C., K.G.; the offices are at 72 Victoria Street, London, S.W.

National Sporting Club, a club for gentlemen interested in sporting and theatrical matters. It was started in 1891, and has long been noted as the scene of the principal contests, both amateur and professional, in the boxing world. The premises of the club are at 43 King Street, Covent Garden, London, W.C.; the secretary is Mr. A. T. Bettinson. The member-ship of the club is about 700; the entrance fee is five or two guineas, and the subscription six or four guineas for town and country mem-

bers respectively. National Union of Teachers (N. U.T.), the official organisation of the members of the teaching profession engaged in elementary or state-governed secondary schools, and may termed the teachers' trade union. was formed in 1870, and a brief recapitulation of its objects is as follows: (1) To associate and unite the teachers of the kingdom of England and Wales. (2) To provide means for the cooperation of teachers and the expression of their collective opinion upon matters affecting the interests education and the teaching profession.
(3) To improve the conditions of education in this country, and to obtain the establishment of a national system of education, and to secure for all public elementary schools adequate financial assistance and accommodation. (4) To afford to the Board of Education and other public or private organisations in connection education the advice of the association. (5) To secure the effective representation of educational interests in parliament. (6) To secure the compilation of a comprehensive register of teachers, and the recognition of the

removal of abuses. (8) To raise the status of the teaching profession, and to open the highest posts in the educational service of the country, including the inspectorate of schools, to the best equipped members of the There are also a provident society, a teachers' benevolent and orphan fund and orphan homes in connection with the union. In addition to the above aims, the union affords advice and assistance to members in legal matters, and protects teachers who have been wrongfully dismissed; to meet the legal expenses incurred there is a legal assistance The union holds an annual conference at Easter, the forty-third being held at Hull in 1912, under the presidency of Mr. W. D. Bentliff. The income of the union for the year 1911-12 was £44,122; the legal assistance fund during the same period cost £9429; £25,000 is distributed to charitable various organisations The union examination annually. board conducts examinations and issues diplomas in various commercial and educational subjects. present membership is about 72,500, being about 70 per cent. of the total number of teachers. The executive of the N.U.T. is vested in a council consisting of the president, the vice-president, the ex-president, the treasurer, elected members. The se the N.U.T. is Sir James Yc M.P., and the offices are at

Russell Square, London, W.C. See The Yearly Handbook and Account of the Conference Proceedings. Nativity, the name given to the Christmas season, celebrating the

birth of Jesus Christ, which is fixed by the Church as Dec. 25. The N. of the Virgin Mary is also observed as a festival in the Roman Catholic Church, and celebrated on Sept. 8. This festival was formally appointed to be observed by the Synod of Salzburg in 800 A.D., but had in reality been celebrated since about 690. For the various usages in connection with the N. of Christ, see Christmas. In astrology, N. has the same meaning as horoscope.

Natrolite, a zeolite, one of the common secondary products after minerals of the nepheline group. Is found in the basalts of Ireland and Scotland, Auvergre, etc. It has the composition Na₂O, Al₂O₃, 3SiO₂ + 2H₂O₄ is white or yellowish red in colour and usually transparent (sp. gr. 2.2, hardness Fuses in the candle flame, and gelatinises with acids

Natron, or Soda Lakes, are a group of lakes, numbering eight in all, situ-

various Acts of parliament in connectated in the Natron Valley, Libyan tion with education, and to secure the Desert, Egypt, 60 m. W.N.W. of removal of abuses. (8) To raise the Cairo. These are rich in natron, or mineral alkali, obtained from the ashes of marine plants. The locality is also noted for four monasteries. from whose libraries many valuable MSS, have been added to European collections.

Nattore, or Natore, a tn. of Bengal, India, 50 m. N.E. by E. of Murshida-bad. Pop. 9700. Natural (in music), the term applied

to any note in its original pitch. normal key, which begins on C, is constructed on Ns. The sign h is used to cancel a preceding sharp or flat.

Natural History, a term originally meant the systematic study of all natural objects, animal, vegetable, and mineral, and thus included all sciences, such as biology, geology, chemistry, etc. With in-creasing knowledge and the growth of specialisation, such a term by its very vagueness became unsuitable in many cases. It is, when now used, practically synonymous with zoology, although by some naturalists it is confined to the study of the living organisms, thus not including comparative anatomy. The name is gradually falling into desuctude, but survives in such titles as The Museum of Natural History.

maintain his child.

less plants.

Naturalisation, see ALIEN. Naturalism, a term of philosophy and thirty-three other which has borne different meanings When now used the antithesis of

to, though differ-See ing slightly from, materialism and pantheism.

Natural Obligation in law means an obligation which is supposed to be prescribed by the laws of nature, as the obligation of a parent to the obligation of a parent to

maintain his child.

Natural Order of Plants, a system of classification of the members of the vegetable kingdom according to the structural and essential characters of each individual, grouping those together which agree in the greatest A species number of characters. comprises individuals which agree in all their constant characters; species similar in important respects are grouped into a genus, which with related genera forms a natural order or family. Classes are still more com-prehensive groups, and these are divided into the two sub-kingdoms Phancrogamia or flowering plants, and Cryptogamia or so-called flower-

Natural Philosophy, a term denoting science as a whole, or that branch of it usually called physics at the present day. The philosophy of the ancients included the study of natural

their relations. As knowledge progressed, there was a tendency to subdivide science into various spheres. In the course of differentiation, the -asretained

vhich does

structure ! of substances, but only with such phenomena as light, heat, sound, etc., which are independent of chemical conceptions. It is no longer possible to maintain such a separation. See Physics, Hear, Light, Sound,

PHYSICS, HEAT, LIGHT, SOUND, MAGNETISM, and ELECTRICITY. Natural Theology forms one of the heads under which Christian apologetics was grouped; the other being revealed religion. This division is now generally given up, the whole subject being treated on a wider basis and the evidence being arranged according as it lies in the realm of physics, of psychology, and meta-physics, of morality, or of the spiritual. The classical defence of natural re-ligion is the work of Paley, though it requires much adaptation to bring it into line with the results of later scientific research. The aim of the argument from natural religion is to prove that God exists. This it strives to do from six main arguments: (1) That of general consent. The universal belief of mankind has more than a subjective value; it has become objective. (2) The cosmobecome objective. (2) The cosmological argument, which, taking the world as the effect, argues a posteriori to a first cause. (3) The teleological argument, or argument from design, stated by Paley in his first chapter, where he makes the well-known comparison of the world to a watch. (4) The ontological argument, which we owe to St. Anselm, which bases belief on the statement that 'that must 'that must exist than which no greater can be conceived.' It is developed at length in his Proslogion. (5) The argument from man's moral sense; and (6) the argument from the design in history.

Nature, the name of a weekly periodical which was established in Nov. 1869. It aims at placing its readers in touch with the results of scientific claims and discoveries, and urges the claims of science to a more

recognition. Articles on subjects, full accounts of

coveries, reviews of notable books and papers, and accounts of noteworthy meetings, are included. The editor has been from its inception Sir Norman Lockyer. The paper is pub-lished on Thursday by Macmillan, and the price is 6d

Nature Printing, the name of a process of obtaining plates or engravings by means of impressions taken from the actual objects, and by printing

phenomena and hypotheses regarding from these impressions. This process can only be used in connection with objects which have flat surfaces, such as lace, and dried plants. The result is obtained by placing the object be-tween two plates, one of copper and another of lead, and by pressing the plates by means of a pair of rollers. The impression thus produced on the leaden plate may be used if only a few copies are needed, but if a large number is required a facsimile of it may be obtained on copper by the electrotype process.

Nature Study, a modern revolt against the bookish tendencies of older methods of education. It is encouraged in schools with the object of teaching children to observe for themselves and not to accept common hearsay, with its frequently superstitious associations, as fact. Through it a child may be admirably grounded in the rudiments of most of the natural sciences, so th

interests are b

of thought an scientific. In relation to the modern attempts to repopulate the countryside, N. S. is of the very first importance, especially in the country schools. It should do much to check the flow of country-bred children to the towns. and by creating a lively interest in nature should greatly stimulate the desire for a life in the open air. It is no fanciful ideal thus to create a rural population which by its ability and scientific resources could increase the productivity of the land as much beyond the average yields of the early 20th century as they are beyond those of medieval times. On the authority of the Board of Education, N. S. is so much on the increase that it is rather the exception than the rule to find elementary schools where no attempt at any form of N. S. is made. Necessarily methods vary widely, but the school rambles or excursions with note-taking and sketches are essential features, and from a general interest in everything seen and heard the children are gradually encouraged to systematise their observations. The practical application of N. S. schools by gardening, and by the live stock, such as , has lately made

will become a more prominent feature of the elementary educational system as the supply of teachers qualified for the work in-creases. School gardens have been for some years a prominent feature of the French system of elementary education, and the results have been found to be eminently satisfactory. SCHOOL GARDENS.

Nature Worship, the worship which is given to any of the powers or

objects of nature and which assumes! various forms. In most cases the powers of nature are personified, and the spirit which is regarded as belonging to them is the object of adora-Among the objects which are worshipped may be mentioned stones of various sizes and forms, trees which were either supposed to be the deity or the dwelling-place of his spirit, animals which are worshipped in some cases because they are sup-posed to contain the spirit of a de-parted friend or relation, and in others because they are of use. The sun and moon were worshipped by some early tribes, as were also the stars, and they still remain as deities among some races. The worship of rivers, water, and of mountains has been practised in various countries at different times and in different ways, sometimes the thing itself being the object of worship and sometimes a spirit embodied in it.

Naucratis, the name of a Greek trading settlement in Egypt, which Cairo was situated between Alexandria, near the modern Nebireh. The settlement was probably founded Milesian colonists about 7th century B.C., and was noted for its flowers and pottery. The site was discovered in 1884, and the ruins in-clude those of temples, buildings, etc.

N. was at one time the only trading settlement in Egypt open to Greeks. Naudé, Gabriel (1600-53), a French scholar and librarian, born at Paris. He studied medicine at Paris and Padua, and was physician to Louis XIII. In 1628 he took charge of Cardinal Bagnio's library, and in 1641 was alibrarian to Cardinal 1641 was librarian to Cardinal Arberini and later to Queen Chris-tina of Sweden. In 1653 he was requested by Mazarin to come and help quested by Mazarin to come and help him to re-form his library, which N-had helped to collect, and was on his way when he died at Abbeville. Nauen, a tn. of Brandenburg, Prussia, 20 m. N.E. of Brandenburg. Pop. 9180.

Naugatuck, a bor. of Connecticut, U.S.A., in New Haven co., 27 m. N.E. of Bridgeport. The manus. are chemicals, cutlery, and rubber goods. Pop. (1910) 12,722.

Nauheim, or Bad Nauheim, a tn. in the grand-duchy of Hesse-Darmstadt, Germany, 24 m. N.N.E. of Frank-fort-on-Main. It is a noted health resort. Pop. 5695. Nauheim Treatment, a system of

treating disease of the heart which involve course (

exercis. grand

about 24 m. by rail N. of Frankforton-Main. It possesses thermal saline

springs with a temperature of from 84° to 95° F., which are impregnated with carbon-dioxide and contain little iron. The waters are specially recommended for anemia, gout, and affections. and rheumatic weakness consequent upon rheumatic fever or influenza. Combined with the bath treatment is a system of gymnastics called the Schott method. which involves movements against a resistance carefully graduated. Cardiac dilatation is a common consequence of influenza, and the condition is likely to cause trouble if no effort is made towards suitable treatment. The best treatment is rest amidst hygienic surroundings, and the N. T. probably owes a great deal of its success to the pleasant and healthful nature of the environment and the freedom from worry, as well as to the exercises which gradually accustom the heart to cope with its work successfully.

Naumachia (Gk. raνμάχια, from raθs, a ship, and μαχή, a battle), the name which the Romans gave to the mimic sea-fights which were waged as a spectacle, and also to the scenes of the combats. The latter took place sometimes in the Circus Maximus. water being introduced sufficient to float ships. The first N. on record represented an engagement between the Tyrian and Egyptian fleets, and was given by Julius Cesar in 46 p.c. The custom in the Campus Martius. of exhibiting naumachiæ was not confined to Rome, as we find arrange-ments for flooding the amphitheatres at Capua and Nimes. The com-The combatants fought as in the gladiatorial games, no quarter being given: gladiators or condemned criminals

were employed.

Naumburg, a tn. of Prussian Saxony, on the Saale, 24 m. S.W. of Halle. There is a considerable wine trade, and manufs. of beer, vinegar, chemicals, cot

etc. The mos the cathedral

the eathedral
Naunton, Sir I;
author and statesman, noted for his
book Fragmenta Regalia, or Observations on the Late Queen Elizabeth, her
Times and Favouriles (1641), which
was revised by Sir W. Scott in 1808,
and who added N.'s memoirs to the
calitical constants of the edition. J. Caulfield also edited this book in 1814. In 1601 N. was elected

Requests (1603). After holding other political offices, he was appointed Secretary of State (1618). See Life by J. Caulfield, 1814 (7).

Naupactus, the name of an ancient

Greek city on the Corinthian guif. The Messeniaus settled in N. after

town had an excellent harbour; on its site is Lepanto, a seaport, 12, m. N.N.E. of Patras.

Nauplia, a small fortified tn. and seaport, cap. of Argolis, Greece, at the N. extremity of the Gulf of Argos or Nauplia, and 7 m. S.E. of the town of Argos. In the 13th century it was occupied by the Venetians, and was taken by the Turks in 1540. From 1824 to 1835 it was the cap. of Greece.

Pop. (com.) 11,000.

Nauplius, the unsegmented larvæ of the lower crustacea with a single

frontal eye. See CRUSTACEA. Nauplius, King of Eubea and father of Palametes. To avenge the death of his son, whom the Greeks had put to death during the siege of Troy, he watched for the return of the Greeks, and as they approached the coast of Eubœa he lighted torches on the dangerous promontory of Caphareus. The sailors, thus mis-

guided, suffered shipwreck.

Nausea, a sense of sickness at the stomach, a desire to vomit. The word is derived from rais, a ship, and is therefore especially associated with sea-sickness. The condition is, however, brought about by many varied affections of the nerves and digestive organs. It is one of the preliminary symptoms of influenza, it accom-panies migraine or sick headache, and even severe neuralgic conditions with no apparent connection with the stomach; it is also produced by purely imaginary conditions, and sensitive persons experience it on cts which have ions.

vomiting begins; the languor, a moist ski and an increased flow

vomiting, considerable relief is experienced. Naushara, a tn. and cantonment of the Punjab, India, 25 m. E. of Peshawar. Pop. 10,000.

Nausicaa, the beautiful daughter of Alcinous, king of the Phæacians, and Arete; was noted for her simplicity, modesty, and gentleness. One day when she was playing ball on the hore she saw Ulysses asleep, who, after leaving the Isle of Calypso, was shipwrecked and swam to the shore where N. was. N. took him to the court of her father. See Homer's Odyssey, vi.; Symonds, The Greek Poets, vol. i., 133-137. Nautch Girls.

Nautical Almanac, a volume tables and calculations of the tides, times of sun's meridian, and other calculations. It is used by navigators

being expelled by the Spartans in and astronomers, and is published 459 B.C.; in 338 B.C. Philip of Macedon annually, several years in advance. captured it from the Achæans. The First produced in 1767; it was from town had an excellent harbour; on then until 1834 under the direction of the Royal Astronomical Society, when it was taken over by the Admiralty. The offices are at 3 Verulam Buildings, Gray's Inn Road, W.C. Nautilus, a name given to two distinct Cephalopods, but the pearly

N. is generally indicated, the paper N. being referred to the quite distinct genus Argonauta. The genus N. inhabits the Indo-Pacific Ocean, and differs from all other living Cephalopods in having four gills instead of two, whence it is placed in a separate order (Tetrabranchia) of its class. Of over thirty genera of that order it is the only surviving genus. It differs, too, in having a number of small retractile feelers instead of arms with suckers and hooks, and in having an external chambered shell. The shell is pearly within, and has a regularly convoluted form, the last whorl being equal to all the others. The chambers or cells are perforated towards the centre and connected by a slender tube or syphon which probably makes the progress of the shell muscle. The number of partitions in the cell indicates the periods of growth. a new outer chamber being added as the capacity of the previous one is outgrown. Externally, the shell is covered with a calcareous layer, and is brown in colour and marked by dark bands 'like a tortoiseshell cat.' The shell yields a fine mother-of-pearl, which is used for inlaying. The N. frequents the sea bottoms, where, with its foot, it can make fairly rapid progress. It lives chiefly on molluscs and small crustaceans, and is somelobster pots and hoop

or members of its class, swims backwards on propelling spouts from

the syphon, the head and tentacles being projected out of the shell; but the rise is probably involuntary and is caused by storms. The animal appears to be much exposed to the attacks of various enemies, having no operculum, and being but feebly attached to the shell, and it is the only Cephalopod which lacks the power of discharging an ink-like fluid to darken the water to escape from its enemies. On the Nicobar coast of India its flesh is salted and dried.

Nauvoo, a city of Illinois, U.S.A., in ancock co. on the Mississippi, Hancock co. 42 m. N. of Quincy. It was founded by the Mormons in 1839, who were driven out in 1846. In 1846 the popof was over 15,000; in 1910 it had decreased to 1020.

Navahoes, Navajoes, or American aborigines, forming the most important tribe of the southern; division of the Athabascan stock of the N. American Indians. The remnants of the tribe are located in the Navajo reservation, New Mexico and Arizona, and number about 20,000. See Dr. W. Matthews, Navaho Legends, 1887.
Naval College, Royal, see GREEN-WICH ROYAL NAVAL COLLEGE.

Naval Discipline Acts define the offences and procedure of naval law. The Act which is now in force is the Act of 1884, which amended the Act of 1866. This Act defines the constitution of the court-martial which tries naval offences, and regulates its personnel according to the rank of the person charged. The Act also defines the limit of locality for naval law. See COURT-MARTIAL.

Naval Education. Naval cadets are chosen from among nominated candidates, who are interviewed separately by the Commission; the chosen candidates have to pass a qualifying literary examination. Every cadet Every cadet must be not younger than twelve years eight months nor older than thirteen years, and must be the son The period of of British parents. training lasts for four years and eight months; two years at the Royal Naval College, Osborne, two years at the Royal Naval College, Dartmouth, and two terms on a training cruiser; £75 per annum must be paid for cadets, in addition to pocket money and the cost of instruments, books, etc.; a few sons of officers who are in straitened circumstances are taken for £40 per annum. Six cadets are taken into the Royal Naval College, Dartmouth, annually from the Conway training ship for the mercantile marine; they must be between fourteen years eight months and fifteen years in age, and have served on the Conway for two years. The Royal Naval College, Greenwich, is open to officers of the Royal Navy, Royal Marines and Royal Indian Marine, and mercantile marine for instruction in the theoretical and scientific studies appertaining to the branch of the service they have chosen. A special class of naval cadets has been instituted. Candidates for admission in 1913 must be between seventeen and a half and nineteen years on June 1, 1913; the examination is competitive, and the successful candidates will be trained as cadets for one and a half years, when they will join the fleet as midshipmen. See the current Navy List (quarterly) for

further particulars. Naval Expenditure. The real be-

time of Cromwell. Previous to that time the navy, such as it was, had been supported chiefly by special grants and by ship money, a tax which is supposed to date back to the time of Alfred the Great. By 1688 N. E. had reached the sum of nearly £1,000,000 per annum, but during the 18th century, when we were struggling for colonial supremacy, the personnel of the next end the struggling for colonial supremacy, the personnel of the navy and the cost of the upkeep went up by leaps and bounds. Under the administration of the elder Pitt, the expenditure per annum reached £5,500,000, and during the American War of Independence the personnel of the navy reached practically 100,000 men, and the expenditure was well night of 0000 000 per annum. By the end £9,000,000 per annum. By the end of the Napoleonic war (1815) the expenditure had reached the colossal ngure of £23,500,000. During the peace years which followed it remained events mained evenly at about £7,500,000; this naturally increased during the Crimean War, when the figure again crept to about £20,000,000. within the last twenty years we have experienced an era of large N. E. The competition of rival nations has been great, and British N. E. has been great, and British N. E. has been proportionately so. In the financial year ending 1906, the N. E. was well over 33 million pounds. In the financial year ending March 1913, the total amount voted for the navy was £45,075,000, and the personnel of the fleet was increased by 3500 may be a few years betterwise was 1916. men. Four new battleships were laid down, but the construction estimate was £700,000 less than that of the previous year. Naval Literature. The literature which has grown up round so important a subject as the navy has by

this time reached immense propor-We can deal first of all with official literatures, and we find that this side of the subject alone contains such a vast amount of works that it is possible here only to mention the chief headings under which they can be found. 'General regulations' is the title of the first subheading, and the literature to be found here deals simply with those regulations which govern the men who belong to the Royal Navy. Special handbooks are issued which deal with special subjects, such, for example, as manuals jects, such, for example, as manuals of gunnery, handbooks for special guns, e.g. Handbook of the Norden-feld 6 Pr. Quick-firing Guns, Marks I. and II., Handbook of Gymnastic Exercises for the Use of His Majesly's Fleet, Signals for the Royal Navy and Ships under Convoy (1746), one of the latest hooks issued on the latter ginning of the expenditure of a fair latest books issued on the latter proportion of the public funds on the subject being The Seaman's Signal upkeep of the navy dates back to the Manual for the Use of His Majesty's

Navy (2 vols). Special manuals are ship (an Admiralty publication) also issued dealing with training Literature dealing with naval science ships, uniform, watch, station, also is to be found in large quantities: cuips, uniform, watch, station, quarter, and fire bells, reviews and manœuvres, Royal Marines, Royal Navy Reserve, and there is, of course, also the periodical publication, the Navy List. Practically two columns of the catalogue of the British Museum Library are taken Museum Library are taken up with lists of addresses and petitions from the Royal Navy, and in glancing through the columns of this we find. A letter from the commanders and officers of the fleet of this commonwealth unto General Monek in Scotland (1659), and 'To his Highness the Lord Protector, the humble petition of the seamen belonging to the ships of the commonwealth of England.' Among the miscellaneous literature catalogued in the volume already mentioned we find, A Brief Inquiry into the present condition of the Royal Navy (1801), which only goes to prove that a topic which is ever recurring at the present day is by no means new, and also a copy of the oath taken by the seamen of the revolted ships (1648). Most of the pamphlets to be found here deal with some grievance or some supposed fault Memoirs of of the Royal Navy. To to the more modern sid ture of the British Re ind that within even the last few years that literature has increased at a very great rate. We will consider first of all some of the more important that the second sec

portant works which deal with nave history: Earliest Engi and the First Schools of

wealth and the First Dutch War' (Cambridge Modern History, vol. iv., 1906); Naval Operations between Great Britain and America, 1812-15 (Theo-

Royal Navy, 1679-88 (ed. by J. R. Tanner, 1906); 'The Struggle for the Mediterranean' (Cambridge Medicary, vol. viii.), and 'The Neutrality and the Commanc Sea.' (Cambridge Modern History, vol. ix.), both by H. W. Wilson. Turning to modern general literature which has some bearing on the navy, we find amongst many other publications the following: Sea Law and Sea Power as they would be affected by the Recent Promosals (T. S. Rowles, 1910): Recent Proposals (T. S. Bowles, 1910); British War Fleets: the New Scheme

The Art of Naval Warfare (Sir C. A. G. Bridge, 1907); A Study of Naval Strategy (R. Daveley, 1909); Naval Administration and Warfare (Mahan, 1908); and on special topics we find a literature on such subjects as: Submarine Navigation and Warfare, Naval Art, Deutches seemännisches Wörterbuch (A. Stenzel, Berlin, 1904). Other books which may be mentioned in this class are: A. T. Mahan's In-fluence of Sea Power upon History (1890), Influence of Sea Power upon the French Revolution and Empire (1892), and Sea Power in its Relation to the War of 1812 (1905); Froude's English Seamen of the 16th Century. An important side of naval literature is that which deals with the biographies of famous seamen. Amongst the more important of this class may be mentioned: Southey's Nelson (1813), A. T. Mahan's Nelson (1899), Corbett's Drake (1890), Hannay's Blake (1886) and Rodney (1868), Brer Jones's Fro Drake and

(1903), and W. Clark Russell, most of whose sketches and stories have for their main topic some naval adventure. Amongst personal reminiscences we must mention: Pepys's Diary, 1660-78, Taubman's Diary of dore Roosevelt); Pepys's Memoirs of the a Chaplain (1710), Dampier's Yoy-Royal Navy, 1679-88 (ed. by J. R. ages (1779), Cook's Yoyages (1893), Tanner, 1906); 'The Struggle for the Osborn's Stray Leaves from an Arctic Mediterranean' (Cambridge Mediterranean' Stray Syron's Hyron's Journal of Byron's Journal of

parwin's Journal of H.M.S. Beagle in 1831-6 (1890), and Voyage of the Beagle (1852). d the World, Hobart

Naval Manœuvres, an annual period of training which is carried out by the fleets under practically war conditions. It is impossible to reproduce actual war conditions, but everything is done to instruct and train the crews of Reorganisation and Mobilisation in the art of actual war. They consist (A. S. Hurd, 1905); Die Englische See macht (Count Reventlow, 1906); Sea have within recent years consisted of Power and other Studies (Sir C. A. G. attacks on the E. coast, occasionally Bridge, 1910); Manual of Seaman- in conjunction with a military force.

In 1912 a Red force, which represented an invading fleet, was opposed by a Blue fleet, the defending force, but the Red fleet was actually successful in landing theoretically a large force in Filey Bay (Yorks.) without molestation from the defending force. In 1913 an attempt made to land a fearer on the Executive sectors are seed of the sectors and the Executive sectors are successful.

nation an attempt made to land a force on the E. coast succeeded.

Navan, a tn. of co. Meath, Ireland, situated at the junction of the Boyne and Blackwater, 7 m. N.N.E. of Trim.

It manufs. woollens. Pop. (1910)

3800. Navarete, Juan Fernandez (1526-79), surnamed El Mudo (the Mute), a Spanish painter, born at Logroño. He is supposed to have been a pupil of Titian at Venice. In 1568 he went to Madrid as king's painter to Philip II., at a salary, and painted in the Escorial the three pictures of 'The Nativity, 'The Baptism of Christ,' and 'Abraham receiving Three Angels.' His works are characterised by freedom of design and warmth of colouring.

Navarino, Pylos, or Neocastro, a fortified seaport of Greece, on Navarino Bay, in the prov. of Messenia, 56 m. S.W. of Tripolis. To the N. are situated the ruins of the ancient Pylos. In the bay (1827) the English, French, and Russians united for the protection of Greece, and defeated the Turkish and Egyptian fleets. Navarre, a prov. of Spain (formerly

a kingdom forming a part of France and Spain), is bounded on the N. by France, on the S. and E. by Aragon, and on the W. by the Biscays. Area 4055 sq. m. Pop. 312,020. The country is mountainous, being bounded and traversed by the Pyrenees, spurs of which occupy almost the whole of the province in its northern and eastern ----Altovise

N. is w Aragon, on the level shores of which corn, wine, and oil of good quality are produced. Some of the valleys which intersect the mountain ranges, as those of Roncesvalles, Lescon, Bastan, and Roncal, have a fruitful soil, and yield good crops: but in the mountain districts husbandry is important of the control of the contro practicable. Cereals, oil, wine, and fruit are produced, and the manufs. include textiles, soap, candles, leather, and paper. Iron, silver, lead, copper, and salt are the chief mineral products of the district. The chief town is Pamplona (q.v.).

After having become gradually amalgamated with their conquerors, the people continued to enjoy a species of turbulent independence under military leaders until the 8th century. when they were almost annihilated by the hordes of Arabs who were rapidly spreading their dominion to all parts of the peninsula. In 1285 it became an appanage of the crown of France, and continued a part of that kingdom during the successive reigns of Louis X. Philip V., and Charles the Fair: but on the death of this last in 1328, France fell to the family of Valois, and the daughter of Louis X. the rightful heir, succeeded to N. as Joanna II. Ferdinand seized Spanish N. in 1512, when it became part of Spain, and the small strip of territory on the N. of the Pyrenees became merged in the crown of France. After this act of spoliation there remained nothing of ancient N. beyond a small territory on the northern side of the Pyrences. which was subsequently united to the crown of France by Henri IV. of Bourbon, king of N. whose mother, Jeanne d'Albret, was granddaughter of Queen Catharine; and hence the history of N. ends with his accession to the French them. to the French throne in 1589. Navarrese were, however, permitted retain many of their ancient municipal charters and constitutional privileges, after their incorporation with the other domains of the Spanish crown, and these prerogatives were not taken from them till the reign of Queen Christina, when the active aid which they had furnished to the Pretender, Don Carlos, drew upon them the ill-will of the government. and led at the close of the Carlist War to the abrogation of their fueros, or national assemblies, and to the amal------- of their nationality with kingdom at large.

e, Martin Fernandez de N. is w Anezo, and by the Ebro, together (1705-1844), a Spanish scholar and with its tributaries the Ega and naval officer, born at Abalos. He naval officer, born at Abalos. He entered the navy in 1780, and became a captain in 1796. From 1789-92 he was appointed to collect documents relating to the history of the Spanish navy; he was made director of the hydrographic department in 1823, and senator and director of the Madrid Academy of History in 1837. His works include Colection de los viages y decubrimientos and history. viages y decubrimientos que hicieron por mar los Españoles desde fines del Siglo XV.; Discriacion sobre la His-toire de la Nautica (published 1846); Biblioteca Marilima Españolo, etc.

Nave, in ecclesiastical architecture The territory known from an early the main central division of a church. period of Spanish history under the having aisles on either side. It is name of N. was occupied in ancient separated from the algles by rows of times by the Yascones, who were sub-plers or columns, and is generally the dued by the Goths in the 5th century.

by the laity.

Navew, or Navet, a name for several cruciferous plants which, originally classified together as Brassica campestris, were divided by Sir Joseph Hooker into three sub-species, B. rapa, from which the turnip is derived; B. rutabaga, swede turnip; and B. napus, rape. The difference in the varieties probably results from the objects and methods of cultivation.

whether for fleshy roots or oily seeds.
Navia, a tn. of Spain, in the prov.
of Oviedo, 46 m. W.N.W. of Oviedo.

Pop. 6500.

Navia de Suarna, a tn. of Spain, in the prov. of Lugo, 30 m. E. of Lugo.

Pop. 5800.

Navicular Disease, or Groggy Lameness, an inflammation and ulceration of the navicular or shuttle-bone of the horse, invariably occurring in the forefeet, and due sometimes to hereditary causes or to overwork on hard roads, but more commonly to driving at excessive speed after the horse has been kept for some time without exercise. The inflammation causes a constant irritation in the foot, which sets up an extra growth of horn; the removal of this, frequent shoeing, for preference with an indiarubber bar pad, and short shoe, affords much relief and enables the animal to work tolerably well, but the disease is practically incurable.

Navies, see NAVY. Navigation, the name applied to the science of finding the position of a vessel at sea, and so directing her from one point to another. During During practically the first fifteen centuries of the Christian era early sailors, such as the Phœnicians, the Carthaginians, Greeks, and Romans, depended en-tirely upon their observation of the skies and their proximity to the coast, out of sight of which they seldom ventured. The Vikings probably did most of their navigating under similar conditions, and their discovery of Iceconditions, and their discovery of Ice-land, and possibly of America, was due to their being blown out of sight of land and their inability to direct themselves. During that period in the history of Europe which is usually known by the name of the Renaissance, the science of N. began to become a more or less exact one. This was due very largely to the discoveries of the sailors of Portugal, and more especially to the work of Prince Henry the Navigator. The cross staff, an invention by which longitude could be determined, was first made by Werner about the beginning of the 16th century, and later chrono-logical observation in conjunction with the use of nautical instruments

term was anciently used to include came into general use. Davis in-the aisles, denoting all the part used vented a back staff which seems to have been very generally accepted, and this form of quadrant remained in use for a very long time. Very much about the same time an instrument came into use for the deter-mination of the height of the sun and stars (the astrolabe). inventions and discoveries of Mercator did much to make N, more a matter of exactness and less of general guesswork than it had previously been. The inventions of Wright did much also in this direction, and finally, towards the beginning of the 17th century, arithmetic, trigonometry, and logarithms began to be used as methods of calculation in place methods of calculating by means of instruments. A great number of works on the science of N. have been published, and during the 16th century we find that attention seems for the first time, as far as literature is con-cerned, to have been drawn to this subject. Probably the greatest work of this century was that of Martin Cortes, whose work was accepted as authoritative. Amongst English books on this subject may be mentioned Cunningham's Cosmography and Navigation, the work of Davis and Mercator, and in 1754 J. Robertson's The Elements of Navigation. In 1763 the British Mariner's Guide was published by Dr. Maskelyne, and this really was the nucleus of the Navigal American States. Nautical Almanae, which was first published in 1767. The author of the British Mariner's Guide had also, two years previous to this first publication, discovered a method by which longi-tude might be determined by lunar observation.

Navigation, Practical: Coastal.—In navigating a vessel along a coast the exact position is usually ascertained by reference to points of land, lighthouses, and beacons; failing this, by means of reference to the chart and to any places marked prominently on this. When it is possible to refer to more than one point, the position is easily ascertained, but when only one point is available, a bearing of that point is taken and the distance estimated in that way. This, however, is usually unsatisfactory and only approximated the state of the st proximate. Another method adopted is to take a bearing of a point and then continue the vessel in the same course for some distance, at the end of which time another bearing is taken, and these two bearings are marked down on the chart. By means now of a parallel rule placed in the same direction as the ship's course, it is possible to find and mark the exact position of the vessel. Another variation of the foregoing methods of find-

ing the position of the vessel is known meridians and the equator are shown as the 'four point bearing.' This is on Mercator's projection as straight used when the ship is 'abeam' of the point of which observation is being made. A bearing is also taken when the point is four points on the bow. When it is possible to take observations of two points, these observations are taken simultaneously and marked on the chart, the point of intersection is the position of the vessel. three points in view an instrument called a station pointer is used, and the angles between them found by means of its three arms. These three arms are attached to a circle made of wood, and when the arms have been placed in such a position that they correspond with the angles between the points, it is placed on the chart, and the centre of the circle gives the exact position of the vessel. coastal navigation, when the weather is foggy, the ship is navigated by means of 'feeling' round the coast with the lead or sounding machine. Naturally this is the most unsatisfactory of all methods, and soundings have to be continually taken in order to get even an approximate position. It is necessary also to bear in mind that all bearings taken from the compass must be converted into magnetic bearings before being marked on the magnetic chart, and even if the chart is a 'true' one, variation must still be allowed for. A bearing may be best defined as an observation by compass of the direction in which a point lies from the vessel.

Modern ocean navigation.—The increase both in the size and the speed of ships has led to many developments in the science of navigation. Problem

theoretic become

of navigation to-day is much more intricate and precise than it was some decades ago. A long ocean voyage is first mapped out as carefully as possible on a great circle chart, the shortest possible route being chosen. The track thus chosen is followed also on a chart which shows probable wind directions and currents, and is modified according to the informa-In addition, the tion therein given. In addition, the tract chosen would be also modified · ivigators by suc books . on would give ar supplied by the Admiralty's Ocean Passage Book. Next the route would be trans-ferred from a great circle chart to a Mercator's projection chart, on which the great circles are shown, for convenience' sake, as straight lines. sake, as straight lines, whilst the 'rhumb' line (the representation of the navigation of the ship) is shown as a curved line.

lines. The great circles are not followed in the steering of the ship, in place each circle is divided into chords which are followed instead, since that means only the alteration of the course by one or two degrees at the end of each chord, whereas to follow the great circle would involve the constant changing of the course. The general track to be followed having already been laid down, we may describe three methods by briefly means of which it is possible at any point during the voyage to ascertain the exact position of the vessel. These three methods are: (1) The recording of the track on charts, a difficult matter owing to the constant errors which creep in and which cannot well be avoided; (2) by trigonometrical calculation, which is based on the course steered and the distance run; (3) by astronomical observation. As long as the ship is in sight of land, those methods which have been described under the heading coastal navigation (q.v.) are used. In rough or hazy weather continuous soundings are taken when in localities which are known to be dangerous, and it is necessary to remember that the soundings must be continuous, since an occasional sounding is more dangerous than useful. Lord Kelvin's sounding machine is usually used for that purpose nowadays. During these periods the coast chart is used, this being on a very much greater scale than the ocean chart, which is usually known as the small scale Rafore losing sight of land the latitude ated by means

described, and the exact position is transferred from the coast chart to the small scale chart. After this the position of the ship is calculated by the methods given under the heading (2) above. This method is rectified wherever possible by means of astronomical observation and by a calculation of the changes of latitude and longitude by means of plane trigonometry, frequent use being made of the traverse tables. These methods of discovering the exact position of a ship are known as dead reckoning, and the modern ship's compass, patented by the late Lord Kelvin, has done much to ensure the accuracy of the dead reckoning. The distance run by the ship is obtained by the patent log, the hand log being regarded nowadays as giving only the roughest estimate of the distance run. Nor is the patent log regarded as entirely accurate, the distance run by the ship being calculated more accurately nowadays by All the number of revolutions of the

engines. The most accurate means of a ascertaining the exact position of the ship, however, is by astronomical observation, and this is always employed wherever possible. Dead reckoning is only used during bad weather conditions, and when we remember that night observations can be accurately taken nowadays, we can realise that the navigator need never be for long without accurate observations from which he can tell the exact position of his vessel. The astronomical observations are attended by many difficulties. The in-strument used for making these strument used for making these observations is a sextant; but this, in spite of its really marvellous accuracy, owing to the conditions under which it has to be employed, must give rise to some little error. Navigators attempt, and to a great extent succeed, in rectifying such error by taking the average result of a number of observations made at a number of observations made at different times. One of the greatest marvels of modern navigation is the reliance which can be placed upon navigation by star observation. difficulties which were alleged to accompany night observations preaccompany night observations pre-viously have by the light of experience been swept away. The most accurate of all observations is probably the twi-light observation, when the brighter stars are just visible and the horizon is visible also. For this purpose the armillary sphere is employed. is a small celestial globe on which is marked all the principal stars visible to the naked eye. By manipulating the sphere, which is elevated, until sidereal time is under the fixed meridian, a correct representation of the heavens is thus obtained. This instrument is used not only at twilight but atnight also, arrangements having been made for this purpose during the twilight observation. Astronomical observations are made at sea for

The chief heavenly bodies observed are the Sun, Moon, Venus, Mars, Jupiter, Saturn, and the Pole Star, together with all stars of the first magnitude. The Nautical Almanae gives the position of all these for fixed times at Greenwich, and gives also all necessary information for computing the position of these bodies at all times in all places.

Navigation Acts, a long series of Acts of a protective nature which have been passed from time to time excluding foreign competitors from competing on equal terms with English ships. Although these Acts date back to the time of Richard II.

passed at the beginning of Charles II.'s reign, directed principally against the Dutch. This provided that imports should be brought into England only in English vessels, commanded and manned by a majority of English subjects. This restriction also applied to any English dependencies. very great extent these laws accounted for much of the trouble between Great Britain and Ireland, and also between the American colonies and the mother country. These restrictions on foreign trade were not totally withdrawn until the middle of the 19th century, and even in the withdrawal of these restrictions the right was retained to retaliate if restrictions were placed on British navigation in foreign waters.

Navigator's Islands, see Samoa.
Naville, Edouard Henri (b. 1844), a
Swiss Egyptologist, born at Geneva.
In 1869 he went to Egypt, and in
1870 published Textes relatifs au
mythe d'Horus recueilles dans le
Temple d'Edfou. In 1874 he was
commissioned by the London Congress of Orientalists to edit the text
of the Egyptian 'Book of the Dead,'
which appeared in 1886 as Das
ägyptische Toddenbuch der 18 bis 20
Dynastie. Since 1882 he has been
conducting investigations for the
Egypt Exploration Fund. In 1891 he
was appointed professor of Egyptology in the University of Geneva. He
has published memoirs on The Store
City of Pithom, 1836; Goshen and the
Skrine of Saft el-Hanneh, 1887: Deir
el-Bahari, 1894-1901; The Papyrus

has published memoirs on The Store city of Pithom, 1885; Goshen and the Shrine of Saft el-Hanneh, 1887; Deir el-Bahari, 1894-1901; The Papprus of Toniya, 1908.

Naville, François Marc Louis (1784-1846), a Swiss philosopher, born at Geneva. He was pastor at Chancy in 1811, and founded there, and later at Vernier, a model school. He followed the philosophy of Maine de Birau, and helped to make him known. He published De Véducation publique considerée dans ses rapports avec le développement des facultés, la marche progressive de la civilisation, et les besoins, de la France, 1832, and La

considere dans ses rapports avec le développement des facultés, la marche progressive de la civilisation, et les besoins de la France, 1832, and La Charité legale, 1836.

Navy, The British, holds the foremost place among the navies of the modern world for the following reasons. In the first place the history of that N. is longer than that of any other, and secondly, it is the greatest N. numerically of modern times. The appointment of a reality the forerunner of an efficient fleet to protect that shore from foreign invasion. The incursions of the Vikings made it necessary to provide some force by means of which we could repel and in time stop the

East. Alfred the Great the history of our N. is continuous. Alfred fought the Danes on their own grounds, and in order to do so made what we may call a levy on each of the sea-border counties for the provision of a certain number of ships, or a certain amount of money or men for the upkeep of those ships, to defend the coasts of the country from foreign invasion. Between Alfred's time and the Norman Conquest the 'levied' N. was supplemented by the possession by the king of royal ships, and during the years which followed the Norman Conquest the principles of feudalism were applied to the levying of a naval The seaport towns held their charters and privileges in return for men and ships which were to serve the king for fifteen days in the year at the expense of the towns. During the 12th and 13th centuries the fleet of the Cinque Ports was practically the national fleet, but this rapidly sank into disrepute, and the real royal N. came to be not the feudal array but the mercenary N. In this respect we may compare the national N. and army, since both have come down to us not from the feudal array, but from the purely mercenary forces raised at a later date by the later Plantagenet kings. The main nucleus of the royal N., however, was the king's own ships, which naturally were much more under his control than those sent him from the counties. These were controlled by royal officials, and were entirely at the command of the king. The crusade of 1190 had result at least of bringing int the English N. the title of although it was not at first used in | the supreme sense in which it is used to-day, and indeed an admiral in that sense was not appointed until 1360, and a first sea lord, as we know the title to-day, was not appointed until well into the 15th century. Even during the reign of our weak kings the sovereignty of the seas was retained. In John's reign we have victories over Philip Augustus, and in Edward III.'s we have the victory period goes far to prove the tion. During the Hundre

War also we seldom found in easily invading France,

perhaps is the supreme test.

Practically since the time of still remained in existence, fluctuated in strength according to the strength or weakness of the reigning king. During the Tudor period the N. increased in strength. Henry VII. added to its numbers, not very greatly, it is true, but nevertheless he laid the foundation for the greater N. which his son was to build. He employed many of the royal ships on merchant ventures also. Henry VIII. took a deep interest in the N., however. He spent at least some proportion of the plunder of the monasteries in raising an efficient fleet, and a fleet which was built on lines for the time absolutely modern. As far as the fleet is concerned the Tudor period was a period of transition, but even during the reign of Elizabeth the N. never became larger than it was dur-ing the reign of Henry VIII. Henry was also responsible for the establishment, of a navy board, under the direction of a lord high admiral, and this administrative reform remained in existence down to the time of William IV. in England. The early history of the personnel of the fleet shows us that it was regarded very much more as a 'military' force than as anything else. The sailors who navigated the ship were not held of the same importance as the soldiers the same importance as the solutions who defended it. They were also very much in the minority. By the time of Henry VIII. this had to a very great extent changed, nor was it to be wondered at. The era of discoveries had given the ships a very much wider scope than they had previously had. It was necessary now to have a ' ressel. The diminished very largely in numbers. Further, the great strides which had been made

in the science of navigation made it necessary that the men in command should be trained men, and not merely the favoured nominees of the king. The case of the appointment of a man like Medina Sidonia to the command of the Armada by Philip II. is a case in point. Further, during the Tudor period the size of the ships Edward III.'s we have the victory at Sluys in 1340, and later over the the number of ships in the N. of Spaniards at Winchelsea in 1350. Up to this time, at any rate, we had suffered no great defeat, and our claim to sovereignty in the narrow leaf was greater. The Stuart period cases could not easily be disputed, and our retention of Calais for so long a During the reign of James I. many were made, and ships increased increased enormously, and although the number of ships in the N. of ships increased position of lord

aken from the perhaps not so

led a somewhat chequered career much for inefficiency as for corrup-during the period 1399-1485, but it tion, and given to a commission.

at a very great strength, these com-missioners nevertheless took steps to see that the fleet was efficient. Further, the king himself took great interest in the development of the N. and especially in naval construction. This work was continued during the reign of Charles I., and many reforms were made in the matter of the personnel of the fleet which was increased and which received very much better wages. The ships that were constructed were made in good quality, and it may be remembered here that Charles's first levy of Ship Money was employed for the construction and increase of the N. The strength of the N., however, was still very small, and at the outbreak of war the king had only about forty ships in the N., and these were handed over to parliament by the newly created lord high ment by the newly created ford high admiral at the beginning of the war. During the period 1642-60 the N. passed into the hands of parliament and was controlled by admirals appointed by it. The N., however, did much good work, and under Cromwell it revived the days when the English fleet, had been able to the English fleet had been able to claim the sovereignty of the seas. By 1660 the N. had more than trebled in size, and had nearly trebled in tonnage. Further, the naval service was not longer regarded as of necessity a service by pressed men; the admirals of the Commonwealth realised the error of this and opened the service to voluntary servants as well as pressed crews. In view of the ever-increasing trade of England, and the necessity to protect the merchant service, the increase of the N. was essential to the well-being of the nation. During the reign of Charles II. the N. did at last become truly national. Officers received a proper training from the time that they were boys, and special corps were founded in order to have an everincreasing number of officers prepared for the service. The commerce of the country was much more amply protected, and piracy was put down with a strong hand. Up to the passing of the Test Act (1673) the lord high admiral was James, Duke of York (afterwards James II.), and during his period of administration the N. was certainly efficient, and he also was certainly efficient, and he also was certainly efficient, and he also proved himself a sailor of some note and of good courage. During his period of office, a period of which we learn much from the diarist Samuel Pepys, the N. consisted of about 170 ships, with a tonnage of over 100,000 tons, a personnel of 42,000 men, and nearly 7000 guns. This was obviously a vast improvement on the previous

Although the N. was not maintained almost entirely into the hands of at a very great strength, these comparliament. The title of royal N. was still maintained, and occasionally the form of appointing a lord high admiral was gone through, but as a purely royal force the N. ceased to exist. We must remember, however, that it is because the N. was under royal control for so long that it has so great a continuity of history, and that it would probably have often fallen into decay had it not been kept together as a royal force. The N. was controlled by the Navy Discipline Act of 1660, which was, at the end of the War of the Austrian Succession, supplemented by an Act of George still maintained, and occasionally the supplemented by an Act of George II.'s reign. Few great changes took place in naval construction until the reign of Queen Victoria. Many experi-ments were made, and the ships in-creased in size and in the number of guns which they carried; but it was not until the beginning of the 19th century that real developments began to take place. The first steam warship was constructed in 1814, and since that time experiments have been constantly made, until at the present time we have ships of the type of the super-Dreadnought. Ships began after 1854 to be armour-plated, this being a tribute paid to the ever-in-creasing power of shells. The year 1860 saw the launch of the first ironclad of Great Britain, but this had been preceded by a vessel of like build launched by France in the previous year. Guns were, however, quickly invented which could pierce the armour carried by these vessels, and so later ships had a greater thickness of armour, and carried guns which were powerful enough to pierce through the armour of the opposing The ordinary ironclad was vessels. about the year 1862 superseded by the turret ship, and under the direc-tion of Sir E. T. Reed, the constructor of the N., a ship was produced which was capable of firing in all directions from central batteries, and did not depend entirely upon its broadsides. Turret and mastless warships were now regarded as the latest thing in naval construction, and the turrets carried an armour-plating of from 10 carried an armour-plating of from 10 to 14 in. thick. The turret ships were in the course of time replaced by ships of the cruiser type. These were armoured and protected, and were speedier than the ordinary line-of-battle ships, but did not carry so much armour-plating and were not so well protected. Since 1880 we definite programme had a have of naval construction every year, whereby we base the amount of construction necessary upon the amount reign. When the Revolution came in of construction to be undertaken by 1688, the control of the N. passed foreign powers. The latest word in

naval construction is the super-amount of progress which has been Dreadnought, ships of from 22,500 made since 1906:—
tons to 26,000 tons, with a speed per hour of anything from 21 to 25 knots, carrying ten 16-in, guns and sixteen 6-in. guns, with an armour-plating of 12 in. thickness. If we compare a ship of this type, such as the Zealous, which has only been laid down this (q.v.) a comparison of the great Ns. of year, with the original Dreadnought the world is given in the following type, we can easily see the enormous table:-

Knots Armour. Guns. Tons. Dreadnought 17,900 11 in. 10·12 in. 21 Zealous 26,000 25 12 .. 10.16 ..

						_		
Vessels	Britain	Ger- many	France	U.S.A.	Japan	Russia	Italy	
Battleships— All classes	68	37	20	31	19	5	12	
Cruisers— Armoured and otherwise	68	38	16	22	12	11	9	
Destroyers	154	108	75	34	43	79	22	
Submarines	79	24	68	27	15	29	18	
Men	146,000	66,000	60,000	64,000	49,000		35,000	

of New Granada, Isthmus of Panama, America. It has a fine harbour, and is connected by a breakwater to a small island about $\frac{1}{2}$ m. distant. Quantities of coffee, cocoanuts, and wood are exported. It is a railway terminus. Pon. 5000 the Caribbean Sea, Central

terminus. Pop. 5000. Navy Board, The, a board estab-lished in the reign of Henry VIII. to superintend the administrative work of the navy. It remained in existence between the years 1546-1832, when it was abolished and its work taken

over by the lords of the Admiralty. Navy League, The, an organisa-tion founded in 1895 for the purpose of advocating the bullding of an adequate navy for the protection of Great Britain and the maintenance of sea power. It is on the strictest of non-party lines, and aims at the educating of parliament and the people on the lines laid down in its programme. It propagates in-formation concerning the navy, past and present, by means of monthly, quarterly, and annual publications, by lectures, and by the publication of many pamphlets. Secretary, P. J. Hannon, Esq., 11 Victoria Street, London, S.W.

Nawanagar, or Jamnagar, a sea-port in. cap. of N. dist., on the Gulf of Cutch, India. The chief manufs. are silk and embroidery. Pop. 54,000.

Naworth Castle, see LANERCOST. sentenced to be Naxos: 1. An Island of Greece in and imprisoned, the Augean Sea, the largest of the Nazarenes, a Cyclades (q.v.),

Navy Bay, or Limon, a seaport tn. 175 sq. m. It is mountainous and New Granada, Isthmus of Panama, fertile, and produces quantities of wine, for which reason it was chosen as the centre of the worship It was colonised by the Bacchus. Athenians, conquered by Persia in 540 B.C., and recovered its independence in 471 B.C. In the 13th century it became part of a Venetian duchy, was taken by the Turks in 1566, and now belongs to Greece. The other products are cotton, grain, and fruits; there are granite and marble quarries. Pop. 16,000. 2. The cap. of the above island, is a port on the N.W. coast and the seat of a Greek and Latin bishopric. Pop. 2000. 3. The name of the first Greek colony in Sicily, founded 735 B.c., and destroyed by Dionysius of Syracuse in 403 B.C.

Nayler, James (c. 1617-60), an English Quaker, born at Ardsley in Yorkshire. He joined the Parlia-mentary army in 1642 and was present at the battle of Dunbar, 1650. In 1651 he became a Quaker, and gathering round him a party followers travelled from place oſ to place. He was imprisoned in 1653 at Appleby, and again in 1656 Exeter, and on his release from Exeter gaol made a triumphal procession into Bristol, giving out that he was Christ. He was arrested at the High Cross and brought to trial, and on being convicted of blasphemy was sentenced to be whipped, branded.

name has an area of Tertulius (Acts xxiv. 5) to the early

A tn. of Galileo, Palestine, situated about midway between the Medi-terranean and the southern end of the Lake of Galilee. It is important only for its connection with the life of Jesus Christ, where His early years were passed in the house of Joseph and Mary. However, the traditional sites have no real authority. The present town has some 10,000 inhebitants. 2. A tn. of Bahia, Brazil, on the l. b. of the Jaguaripe, Pop. 8000. 3. A tn. in Brazil in the state and 35 m. N.W. of the tn. of Pernambuco. Pop. 15,000.

Naze, The: 1. A cape on the E. coast of Essex, England, 5 m. S. of Harwich. 2. Or Lindesnas, a cape at the extreme S. of Norway, near the entrence to the Starger Pack.

entrance to the Skager Rack. Nazianzen, see GREGORY NAZIAN-

Nazilly, or Naslu, a tn. of Asia Minor, in the vilayet of Smyrna, on the R. Menderez, 25 m. N.E. of Aidin. Pop. 22,000.

Nazirites, or Nazarites, among the ancient Israelites those specially consecrated to the Lord, and separated from the rest of the people. The Nazirite vow demanded: (1) Ab-stinence from intoxicating liquor and from all the produce of the vine; (2) that the hair should not be cut at all but suffered to grow to its full length; (3) avoidance of all ceremonial defilement, such as that involved by contact with a corpse. If the Nazirite vow were taken only for a period of time, its expiration was marked by a ceremonial sacrifice. Other N. (e.g. Samson, Samuel, and the Rechabites) were vowed for life.

Neagh, Lough, a lake of Ulster, N.E. Ireland, the largest in the British Isles (17 by 10 m.). It receives the Blackwater and Ballinderry rivers and is drained N. to the Atlantic through the Bann R. The shores are through the Bann R. The shores are mostly flat and marshy, and its waters have a petrifying quality. There are canals to Belfast, Newry, Tyrone, and Lough Erne. The lake abounds in fish. The House of Lords refused to recognise the right of public fishing in its waters (1911). There are a few islands in the lake. Area 15 cg m. expressed earth 40 ft. Area 153 sq. m.; average depth 40 ft. See Moore's ballad Let Erin Remember.

Christians, but later applied to a Jewish Christian scot, better known see Ebionites (q.v.).

Nazareth: 1. (Modern En-Nasira.)

M.A. from the Harvard University being conferred on him. The History of the Puritans, published in 1732-38, was his principal work.

Neal, John (1793-1876), a novelist and poet, born at Portland, Maine. He wrote novels which show considerable native power but little art. are now almost forgotten. Among those which show the influence of Byron and Godwin are Keep Cool (1818), Logan (1822), and Seventy-Six (1823). His poems have the same features of vigour and want of feigh La 1829 by Fairly Frederick of finish. In 1823 he visited England and became known to Jeremy Bentham. He contributed some articles on American subjects to Blackwood's

Magazine.
Neale, John Mason (1818-66), an English divine and hymn writer, born in London. From 1846 till his death he was warden of Sackville College, E Grinstead. He belonged to the extreme High Church party, and in 1854 established at Rotherfield the sisterhood of St. Margaret, afterwards transferred to E. Grinstead. He wrote or translated nearly oneeighth of Hymns Ancient and Modern, and also published several books for children; a History of the Holy Eastern Church; Mediaval Hymns; History of the Jansenists, etc. See Julian, Dictionary of Hymnology. Neander, Johann August Wilhelm (1799-1850), a German theologian and

historian, born at Göttingen. In 1812 he became professor at Heidelberg and the following year at Berlin, where he devoted himself to the advancement of Christianity. advancement of Christianity. He lectured on church history, ethics, and systematic theology, and was the founder of modern church history. His principal work is the General History of the Christian Religion and Church, translated by J. Torrey, and widely circulated in England and the U.S.A. Among his other publica-U.S.A. Among his other publications may be mentioned: Memorable occurrences from the History of Christianily and Christian Life: The Life of Jesus Christ in its Historical Relations; The Emperor Julian and his Times, etc. See Life by Wiegand (1890).

Neanderthal, a valley of the Rhine Province, Prussia, in the dist. of Di'sseldorf, near the vil. of Methman. Here in 1856 was found the skeleton of a pre-historic man, whose cranium has formed the subject of much discussion among anthropologists Neal, Daniel (1678-1743), an English historian, born in London. He was minister at an Independent teristics, have been found in the caves chapel in Aldersgate Street from 1706-43. In 1720 his *History of New England* was published, which work The skull had a low forehead, was resulted in the honorary degree of large and thick, with large pro

tuberances of the occipital region. It creator of tablet-writing. is believed to have belonged to a troglodyte or primitive cave-dweller, and representative of the earliest dolichocephalic or long-headed race in Europe. Some authorities deny that the skull has any simian racial indications, but that the abnormalities were caused by disease during lifetime. See De Mortillet, Formation de la Nation Française, 1897, and

Taylor's Aryans, 1890.

Neapolis: 1. An ancient seaport of Philippi in Macedonia, the modern Kavalla (pop. about 5000) being near the site. The town was almost opposite Thasos Island. Paul landed here (see Acts xvi. 9-11). 2. The ancient name for Naples in Campania, Italy.

Neap Tides, see TIDES.

Nearchus, the commander of the fleet of Alexander the Great in his Indian expedition, 327-326 B.C. He received command of the fleet ordered by Alexander to be built on the Hydaspes, and conducted it from the mouth of the Indus to the Persian Gulf, the whole journey taking from Sept. 325 to Feb. 324. Fragments of his own narrative of his voyage have been preserved in the Indica of Arrian.

Nearctic, see Geographical Dis-

TRIBUTION. Neath, a parl, and municipal bor. and river-port of the co. of Glamorgan, S. Wales, on a navigable river of the same name, 7 m. N.E. of Swansea. It contains the remains of an ancient action to the remains of an ancient castle, and in the vicinity are the imposing ruins of Neath Abbey. There are at N. several copper and tin works. Copper, coal, spelter, iron, and tin plates, and fine bricks are exported. Pop. (1911) 17,590.

Neat's-foot Oil, a pale yellow odourless product obtained by belling the

less product obtained by boiling the hoofs of neat cattle (a term used to denote all sorts of cattle). It is specially well suited for use as a lubricant, as it does not clog or become rancid.

Neaves, Charles (Lord Neaves) (1800-76), a Scottish judge, born at Edin-burgh. From 1841-45 he was lordadvocate; from 1845-52 sheriff of Orkney and Shetland, and then Solicitor-General for Scotland in Lord Derby's administration. In 1853 he was made a judge in the Court of Session, and in 1858 was appointed a lord of institutes. He was to some lord of justiciary. He wrote some brilliant satires published in the volume entitled Songs and Verses, Social and Scientific.

Nebo, Nabu, or Nabium ('the pro-claimer'), one of the chief deities of Assyria, originally Babylonia and worshipped at I.

E-Zida. He w. as the god of patron of pric

Later he held rank immediately after Merodach (Marduk), and was represented as his son, and given a chamber in Marduk's temple, E-Saggila, at Babylon, whither he was carried in pro-cession on New Year's Day. See Is. xlvi. 1; Jastrow, Religion of Baby-lonia and Assyria, 1898; Delssmann, Bible Studies.

Nebo Mount, or Neba Jebel, a mountain near the northern end of the Dead Sea, with an alt. of 2656 ft. It was included in Abarim (q.v.), and is referred to in the Bible, Num. xxvii. 12; Deut. xxxii. 49.

Nebraska, one of the N.W. Central

States of the American Union. Area about 77,500 sq. m. There is much prairie land, a strip of 'Bad Lands' and sandhills (N. and N.W.), and high land in the W. towards the Rockies, Niobrara Summit and Gabe Rock rising over 5000 ft. The Platte and Niobrara are the chief rivers; Omaha (124,096), Lincoln (capital, 43,973), and S. Omaha (26,259) among the chief towns. N. is known as the Tree-planter State.' Agriculture is the leading industry, corn, maize, and wheat being the chief cereals. Hogs and cattle are reared. Buildingand cattle are reared. Buildingstones, clays, brown lignite, and salt are found to some extent. What is now known as N. was ceded by France to Spain in 1762 and purchased by U.S. in 1804. N. territory was organised in 1854; the state was admitted to the Union in 1867. There are about ninety counties. Par

are about ninety counties. Pop. (1910) 1,192,214.
Nebraska City, the cap. of Otoc co., Nobraska, U.S.A., on the Missouri, 40 m. S. of Omaha. There are starchworks, cereal and planing mills. packing-houses, etc. Pop. (1910)5488.

Nebraska River, see PLATTE RIVER. Nebuchadnezzar, or Nebuchadrezzar, King of the Neo-Babylonian empire; reigned 604-561 B.O. He was the son of Nabopolassar, and during his reign N. defeated Necho at Carchemish. At the beginning of his reign N. had to subduo Jeholakim, who had rebelled against him. Jeholakim was suc-ceeded by his son Jeconiah, and N-now besieged and took Jerusalom and took Jeconiah captive to Babylon. After an unsuccessful attempt on Tyre, N. again laid siege to Jerusalem, which submitted after two years. After that he was victorious With him departed the in Egypt. With glory of Babylon.

Nebulæ. The invention of the telescope led to the recognition of itars invisible to the naked eye, o more powerful the telescope ore stars thus revealed.

cases cloudy appearances were

as extremely

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resolved into clusters of stars, but some clouds did not yield to greater power. Halley, Messiet, and the two Herschels catalogued many. The fact

herscheis catalogued many. The fact that they were really cloudy masses 'leader' was finally settled by 'we' was f and the name 'nebulium' has been given to the unidentified element. Since 1880, when Dr. Draper photo-graphed the N. in Orion, followed by Dr. Common in 1883, and by numerous photographs by Roberts, Max Wolff, and Keeler, our knowledge has much increased. Over seventy lines have been photographed in the spectra of half a dozen N., fifty-five in Orion only. The H lines are clear right down to the ultra-violet. Andromeda and some other 'white' N. give no lines' whatever, just as is given by a gas under pressure, but also by incandescent solids or liquids. So far no parallax has been determined, but Keeler (1890) determined velocities of planetary N. from 0 to nearly 40 m. per second in the line of sight. No change has been certainly observed in any of the N., though Prof. Holden has noted one in the 'trifid' N. of Sagittarius. It is generally accepted that N. are of the same order of distance as the stars, and a pecu-liarity of their distribution is that they are in general remote from the Milky Way. Classification is generally under the heads of annular, elliptic, spiral, and planetary, with the addi-tion of nebulous stars. The larger and brighter N. are very irregular in shape, spreading out in wisps and sprays in all directions, but it is generally considered that the area is accompanied by only slight thickness. The two finest N., those in Andromeda and Orion, are visible to the naked eye.

Nebular Hypothesis, Attempts were development of '

evolution from an astronomer

formulated a scientific theory which, with modifications, remains the only

the rotatio of axis and central bod

du Monde, Lord Kelvin, Prof. Lockyer, and Adam's apple. many others have added to research Neck, in geo or introduced modifications.

Necessaries, see Infant, and Hus-

BAND AND WIFE. · "ed term in logic imply-

ity when not deduced by restricted laws of formal reasoning. Logically, the law of N. compels us to admit the truth of a conclusion or judgment based by laws of reason on other propositions already accepted; or, more particularly as axiomatic, resulting from the evidence of 'common sense,' Mathematical conclusions are thus necessary; in the latter case, e.g., that two straight lines cannot enclose a space. Among the d mediæval

advent of ductive processes, dating from Bacon's Novum Organum, a vast class of necessary truths has been brought within the realm of logical demonstration, or embraced within the realm of theory, i.e. subject to further investigation. It is, however, in philosophy and religion wherethe doctrine of N. assumes importance, greater perhaps since the rapid rise of the theory of evolution and its popular exaggeration over too wide a sphere. N. would imply mechanical processes, as it were, in the whole universe; a view generally held to be incompatible with the operations of human and divine will. But for parel N. 100 Mechanical Processes. But for moral N. see WILL, DETER-MINISM, KANT, LEIBNIZ, CALVIN,

etc.; also Psychology. Neches, a river of Texas, U.S.A., rising in Van Zandt co. Its course of 350 m. is generally S.E., and it enters Sabine Lake, 15 m. N. of the Mexican

Gulf. Neck, the portion of the body joining the head and trunk, also a constricted portion of any structure serv-ing to join its parts. The bony struc-ture of the N. is the cervical portion of the spinal column, consisting of seven vertebræ. The spinal column contains the spinal cord which in the made by Swedenborg and Kant, cervical region is oval in section; the neither astronomers, to explain the amount of grey and white matter bederelopment of comes increased in quantity. The blood is carried to the skull by the right and left common carot id arteries, and is returned by the jugular vein, which may be felt a little below and behind the angle of the jaw, after which it penetrates rather more deeply into the tissues. The N. also conveys tion, etc., a solar system such as ours the guillet or food-passage and the might be formed; it explains largely wind provide a position where the e, occupies a position where the

dpipe connects with the pharynx, the form of one of its cartilages duces the projection known a

Neck, in geology, the name given to columns of cooled lava which fill up

an old volcanic chimney or crater. Up these passages or conduits volcanio materials were forced. Ns. are characterised by a more or less circular pipe filled with consolidated ashes, or with erystalline lava. They vary considerably in size, from 20 yds, in diameter to several miles, and may be simple or complex in structure. They occur in all old volcanic districts, examples existing at Largo Law, Fifeshire; Arthur's Seat, Edinburgh; Dumbarton Hill; the Lothians; Derbyshire; in Auvergne, the Elfel, Bohemia, St. Lucia (W. Indies, 'the Pitous'), Texas, California, and many of the W. states of N. America. The famous diamond mines of Kimberley, Africa, are another example, the blue-ground (serpentine breccia) occupying great funnels. See Geikie, Textbook of Geology.

Neckar, a German river, trib, of the Rhine, rising in the Black Forest, S.W. Würtemberg, and winding N.W. past Cannstadt, Ludwigsburg, Heil-bronn, through Baden to Heidelberg and Mannheim, where it joins the Rhine. Length 246 m.

Neckar-Kreis, one of the kreise or gov. districts of Würtemberg (a kingdom of S.W. Germany, mainly between Bavaria and Baden), in the circle of the Neckar (N.W.).
The area of the Neckar district (chief town, Ludwigsburg) is about 1286 sq. m. The three other districts are the Black Forest or Schwarzwald (Reutlingen), Jagst (Ellwangen), and the Danube or Donau (Ulm). Neckar wines are noted Pop. about 882,570.

Necker, James (1732-1801), born at Geneva. Sent to Paris in his youth; joined the house of Thelusson. the banker, who took him into partnership. In the course of twelve or thirteen years N. realised a large fortune and retired. He then began to aspire to official situations and wrote several works on financial affairs. His Eloge de Colbert obtained a prize from the French Academy. He afterwards wrote a memoir upon the French finances, which so de-lighted Maurepas that he obtained for him appointment of Director of the Treasury (1776) and Director-General of Finances (1777), when, being averse to imposing new taxes, he endeavoured to make up the de-ficiency in the income by economy and icans. In 1781 he published Comte Rendu, which disclosed the state of the revenue and expenditure of Franco. Being refused a seat at the of Frides. Being resigned in 1781, with-drew to Switzerland, and wrote Sur l'Administration des Finances (1781). N. returned to Paris in 1787, and wrote against Calonne; in 1788, on to secure cross-fortilisation.

the resignation of Brienne, Louis XVI. N. Director-General of appointed His second ministry was Finances. short and he retired to Switzerland, but after the taking of the Bastille the National Assembly demanded the recall of N., and Louis complied. He resigned in 1790, and spont his remaining days in Switzerland, writing political tracts. His daughter the celebrated Madame was Staël.

Necker, Suzanne Curchod, Madame (1739-94), a literary lady, born at Geneva, Switzerland, noted tor her beauty, wit, and wide learning. After her marriage in 1764 to Jacques Necker, her house in Paris was the rendezvous of all the distinguished men of the day. She wrote Reflexions sur le Divorce, and Mélanges, published by her husband after her She was the mother of the famous Mme. de Staël.

Necklace, Diamond, see DIAMOND

NECKLACE. Necromancy, a mode of divination practised by the ancients by which the spirits of the dead were conjured up to answer certain questions about the future. In Homer's Odyssey, the shade of Tiresias is brought up and consulted by Ulysses, and the witch of Endor is an example from O.T. history. See DIVINATION.

Necropolis (Gk. reκρός, and πόλις, city of the dead), a cemetery or burying-ground. The name was formerly applied to cemeteries in the vicinity of ancient cities, especially to a suburb of Alexandria, but is now used in a more extended sense for any large burial-ground. Ancient examples remain in Africa (Cyrene and the Egyptian Pyramids), Asia Minor, Greece, and Italy.

Necrosis, the death of cells surrounded by living tissue, more properly the death of an aggregation of cells, s

constantly ... of bodily

N. are direct injury, obstruction in
the circulation of the part or incompetence in the nutritive agencies in of bodily the tissues affected. Cheesy N. is produced by the action of the tubercle In coagulative N. bacillus. amount of fibrin is formed; this occurs in the blood and on the surface of mucous membranes, where a false membrane may be formed, as in diphtheria. In liquefactive N. the action of the cells gives rise to the formation of liquid. See also GAN-GRENE.

Nectar, the sweet juice which many plants secrete in special gland-like Its real use bodies called nectaries seems to be to attract insects and thus

crystallisable sugar.

Nectar, the drink of the gods, described by Homer as a red wine which Hebe pours out for the immortals (Iliad, xix. 38, and iv. 3). N., in Greek mythology, had the power of conferring immortality on all who partook of it. The term is applied figuratively to any delicious drink, such as that made from sweet wine and honey.

Nectarine, a smooth-skinned and generally more crimson - coloured variety of the peach which can often be grown successfully outdoors against a S. wall, in a well-drained border of fibrous loam containing a good proportion of lime. Protection at the time of flowering against spring frosts and cold winds is very essential as the flowers appear early and be-fore the leaves. Planting is best done in September; against walls, fan-trained shapes are best. The culture of Ns. under glass, particularly when grown in pots, is attended with ex-cellent results, if free ventilation and liberal watering are provided, and over-cropping avoided (see PEACH).

Nectary, usually a gland-like honey-secreting body or disk on the receptacle of a flower, either between the petals or between the stamens and pistils. In some cases the N. occurs on the summit of the ovary; in others it lines the inside of the calyx-tube; and occasionally sepals or petals are modified, and in a few cases (such as the monkshood and hellebore) are entirely converted to serve as Ns. The accessibility of the N. is per-fectly adapted to the structure of the insect or other agent on which the fertilisation of the flowers mainly depends.

Nedenäs, an amt of Norway in the prov. of Christiansand, is bounded S.E. by the Skager Rack. It is mountainous, and covers an area of 3600 sq. m. The cap. is Arenual. 10p. 76,985.

Nederbrakel, a tn. in the prov. of E.

Flanders, Belgium, 17 m. S.S.E. of

Ghent. Pop. 5000.
Nederland Steamship Line, The, was established (1870) under a subsidy from the Netherlands Government to carry passengers and cargo between Holland and Java. The company now also has a mail service from Amsterdam via Southampton to Port Said and Suez, and a combination service with the Rotterdamsche Lloyd (from Rotterdam to Java). The fleet con-Rotterdam to Java, The hossists of some twenty-four steamers, a (8300 tons, ing 114,292

ing 114,292 yal Mail Line

has London offices at 60 Haymarket, S.W.: the Nederland Steamship Co. at 2 King William Street, E.C.

Nederluleå, a com. of Sweden, län of

composed of cane sugar and un-| Norrbotten, 12 m. N. of Lulea. Pop. 12,282.

> Nederweert, a com. in the prov. of Limburg, Netherlands, 12 m. N.W.

of Roermond. Pop. 5653.

Nedim (ft. c. 1700-30 under Ahmed III.), a Turkish poet of the 18th century, of the Old Ottoman School. His 'ghazels' and 'kasidas' are marked by grace and originality. He was custodian of the library at Constantinople founded by Ibrahim Pasha. See Poole, Story of Turkey.

Nedjed, see NEJD.

Nedrigailov, a tn. in the gov. and 126 m. N.W. of the city of Kharkov, Russia. Pop. 8000.

Needham, a tn. of Massachusetts, U.S.A., in Norfolk co., 12 m. S.W. of Boston, with hosiery manufs. (1910) 5026.

Needham, John Turberville (1713-81), a Roman Catholic priest and physiologist, born in London and educated at Douay and Cambray. He wrote Idée sommaire, ou Vue générale du Système Physique et Meta-physique de M. Needham sur la De $D\epsilon$

> vork were

descended from the Egyptians; several treatises on microscopical science, on

bees and ants.

Needham (or Nedham), Marchamont (1620-78), a journalist, born at Burford in Oxfordshire. He pursued various callings in his youth, but eventually took up journalism. was the chief author of Mercurius Britanicus (1643-46), a satirical weekly commentary on the news of the day, and was twice arrested for the scurrilous character of the paper. He also published Mercurius Politicus, in which he championed Cromwell's foreign and ecclesiastical policy, and edited the Public Intelligencer (1653-60). After the Restoration he lived by practising physic, and published Medela Medicinæ (1665), an attack on the College of Physicians and its methods, and a complaint of the neglect of chemistry for anatomy. His Discourse concerning Schools and Schoolmasters (1663) suggests several reforms in education.

Needham, Walter (c. 1631-91), eminent anatomist, whose standard work is Dissertatio de Formato Foetu. See Birch, History of the Royal Society.

Needle, Magnetic, see Compass. Needle-gun, see Rifle, Breech-LOADING.

Needles are instruments of metal. or other material, for the purpose of carrying the thread in sewing, embroidery, knitting, netting, and other similar operations. They are generally made of metal, but bone, ivory, and wood are also used; for ordinary

description; for other kinds of work they are often much larger and differently formed, according to the requirements of the work to be done. Needle-making is an important branch of industrial art, and it has attained to extraordinary perfection. The first operation, after the wire has been selected, and its thickness accurately gauged, is to cut it into 8-ft. lengths; this is done by winding it in a coil of 16 ft. circumference, and then cutting this coil into exact halves with powerful cutting shears. The coiling of the wire is so managed that there are 100 pieces in each half when cut; the bundles of 100 wires are again cut into the necessary lengths for two N; and so well arranged are the cutting shears that a man can easily cut enough for 1,000,000 N. in a day of twelve hours. The pieces cut from a coil, although now reduced to the length of two small N., are nevertheless somewhat curved; they are therefore collected into bundles of about 6000 and placed in two iron rings, which hold them loosely together: they are then slightly softened by firing, and are laid on an iron plate or bench, and are pressed with a small curved bar in two or three positions, by which the operator manages to make them all perfectly straight. They are now taken to the grinder, who sits in front of his grindstone upon a seat which is hollow, and forms are single-state one towards the stone. an air-shaft open towards the stone; through this a blast of air is forced when the wheel is in motion, which carries away from the grinder every particle of the subtle dust from the N. points and the stone. Before this A. points and the stone. Before this humane invention, which has rendered the operation quite innocuous, the loss of life in this manufacture was more serious than in any other industrial occupation. The operator, with great tact, holds about twentyfive of the wires, by means of his thumb, pressed against the inside of his fingers, the wires, which are held straight and applied to the grindstone, being dexterously turned round on the inside of the hand by means of the thumb, until they are ground-sharp at one end; they are then reversed, and the other ends are similarly sharpened. They are next taken larly sharpened. They are next taken to the impressing machine, which in principle consists of a weight hanging to a block, which is raised by the hand and let fall at pleasure; the wires are placed in succession under this, so that the falling weight strikes each wire exactly in the middle, and there flattens it. The hardening of the flattens are the block is removed.

needle-work they are made of fine are next punched, two in each steel, and are too well known to need flattened portion. These are done by a machine on the same principle as the impressing machine; this not only punches the two holes, but also forms a small cross-cut between them. At this cross-cut the wire is broken in two, and may now be regarded as two rudely-formed N., each having a flattened and pierced head. A number of these are now threaded (spilled) on a thin wire, and are placed in a vice, which holds them firm and straight, so that the heads can be filed. The next process is oil tempering, for which they are made hot, and immersed in sufficient oil to coat them thoroughly; the oil is then burned off, an operation which renders the N. brittle. They are then weighed out into lots of about 500,000 each, and after being shaken so that they lie side by side, they are laid on a square piece of strong canvas, and a quantity of sand and emery-powder being mixed with them, they are corded up very securely into a long roll from 18 in. to 2 ft. in length. A number of these rolls or bundles are placed on a movable wooden slab in the scouring machine, and over them is placed another heavily weighted slab. The action of the machine, of which these slabs form part, is to move them backwards and forwards in opposite directions, the bundles of N. acting as rollers, the pressure upon which works the enclosed N., sand, etc., together, so that instead of the blackened appearance they had when it commenced, they are white and silverylooking. They are now removed to an exactly similar machine, where an exactly similar machine, where they are polished. Here they are separated from the sand and emery, and are removed to other canvas squares; and when mixed up with a paste of putty-powder and oil, are again corded up, and made to roll backwards and forwards under the vicinitial readen such of the malishing. weighted wooden slab of the polishing machine for four hours more. next process is to remove them from the canvas and agitate them in a vessel with soft soap and water, to remove the oil and putty-powder, and next to dry them in ash-wood saw-dust. They are now highly polished and well tempered, but not all of exactly the same length, nor are the eyes perfect; they are therefore passed to a person who, by nice management of a small gauge, sorts them very quickly into certain lengths (evening). and arranges them all in one direction (heading). They then pass on to be drilled, an operation requiring great nicety, as the small oval holes have flattens it. The hardening of the to be so polished all round as not to flattened part by the blow is removed cause any friction on the thread in in the annealing oven, and the holes sowing with them. The N. is now

of the

operations are considered necessary to produce high finish. The wire of which the ordinary-sized N. is made which the ordinary size is a many size is so thin that 54 pounds go to form 74,000 N. Of ordinary sized N., 2,250,000 weigh 3 cwt. English-made N. are the best in the world, and are chiefly made in Redditch and the neighbourhood, where, and in other parts of the county of Worcester, this manuf. employs a large number of For the varieties of N. used for entering wounds, etc., see Surgical Appliances.

Needles, The, the name given to five remarkable rocks lying immediately off the western extremity of the Isle of Wight in N. lat. 50° 39° and W. long. 1° 34′. Their origin is attributable to the sea beating on the sharp cliffs which form the W. point of the island, and the same influence is gradually wasting them away; the largest of them, which was 120 ft. in height, having been submerged in 1764. They are white, but black at 1764. They are write, but black streaked their bases, and curiously streaked black strata of flints. A lighthouse standing on this extremity of the island rises 715 ft. above the sea.

Neels, Peter (c. 1570-1651), surnamed 'the Elder,' a Dutch painter, born at Antwerp. He excelled in representing the interiors of Gothic churches and convents illuminated, his 'Cathedral of Antwerp' especially being considered a masterpiece. His pictures are to be seen in most mublic calleries. His son, Peter public galleries. His son, Peter Martin N., elthough not equalling his father, imitated his style. Neenah, a city and summer resort

of Winnebago co., Wisconsin, U.S.A., on Fox R., N.W. of Lake Winnebago. It has machine shops, foundries, and paper-mills, and manufs. boots and tensive shoes and agricultural implements. Pop. (1910) 5734.

Neepawa, a scaport tn. of Manitoba, Canada, 17 m. S.E. of Minne-

dosa. Pop. 2000.

Neer, Arnold van der (c. 1619-33), a Dutch landscape painter, born at Amsterdam. He was particularly was particularly successful in rendering moonlight effects among the canal scenery of Holland, and in painting winter landscapes, with skaters on ice introduced.

Neer, Elgon Hendrick van der (1643-1703), son of Arnold, born at Amsterdam. He was a pupil of Vanloo, and became celebrated as a painter of his-

torical pieces, landscapes, etc.

Neerwinden, a vil. of Liège, Belgium, 5 m. S.E. of Tirlemont It was the scene of two battles fought in 1693 and 1793. Pop. 650.

practically finished, but many minor the realm whenever and for whatever purpose he pleases; but because constitutionally every man ought to defend the realm, the sovereign has the prerogative (see under CROWN) of commanding him by the writ of N. E. R. not to leave the country, on pain of punishment for disobedience. This ancient writ was originally used to prevent the clergy from going to Rome, and was afterwards extended of constate.

> ourt by virtue of which ball (q.v.) may be obtained from any person about to go abroad with the object of evading the jurisdiction of the court. The legality of this application of the writ was settled in the time of Charles II., and the oranting of it has long been con-

mi na

labouring successively in General, Neufchatel, Berne, the Pays de Vaud, and in the valleys of Queyras and Freyssinieres. See A. Bost, The Life of Felix Neff, 1855. Nefi of Erzerüm (f. 1603-7 under

Ahmed I.), a Turkish poet and writer of brilliant 'kasidas' (culogies). His ability as a satirist won him enemies, who prevailed on Murad IV. to have

him executed (1635).

Negapatam, or Nagapattanam, a seaport of Madras, India, one of the earliest Portuguese settlements on the Coromandel coast It is in the delta of the Cavery, 48 m. from Tanjore. Oil and textiles are manufactured, rice and paddy exported. The Great Southern Railway of India has ex-N is an im-Pop. portant 57,000 · ohammedans).

Negaunes, a city of Michigan, U.S.A., 11 m. S.W. by W. of Marquette, with several blast furnaces. Pop.

(1910) 8460.

Negligence. In English law the commonly accepted definition of N., which is a tort (actionable wrong) remediable by an action of damages, is that it is the omission to do something which a reasonable man, guided by those considerations which ordinarily regu-late the conduct of human affairs, would do, or doing something which a prudent and reasonable man would not do. The two cardinal facts of importance about N. are that it denotes a standard of conduct and not a state 1693 and 1793. Pop. 650. of mind, and that liability from it

Ne Exeat Regno. At common law arises only where a duty is owed to

(q.v.) every subject may go out of the person aggrieved. The standard of care or 'diligence' which the English common law requires from a person in a particular transaction, though it may vary with the degree of skill ordinarily to be expected from any person similarly circumstanced, has no relation to psychological con-sideration of motive or intention, for it is purely objective. Roman law in this respect was wanting in its usual consistency and practicability. In that system there were, as in the English law, degrees of N. or carelessness, but termonations, en, where the De.

οť. standard of care of an ordinary conus palerfamilias (head of an agnatic family) was enacted, whereas in others, e.g. where the other person to this contract got the benefit from it, a merely relative standard of care was sufficient, for provided the rehis •

The . ing on an inquiry of the amount of accustomed to bestow on matters affecting himself is not one which commands itself to the solution of the point niwowin be unjust to do so; for the latter ordinarily knows nothing of the other's idiosyncrasies, and is morally justified in assuming that the other will act like the average man in like circumstances. In regard to duty, liability for N. may arise from the breach of a duty owed individual, or to all criminately. In the fo

to some fiduciary (e.g. trustee and beneficiary), parental, or tutelary (guardian and ward) relationship, or exist by reason of a purely contractual relationship. In the case of N. manifested in the performance or omission to perform the terms of a contract, difficult questions arise as to whether the injured party should sue in contract or ' being the

the former case was be vise may be reasonably supposed to have sustained as a proximate consequence of the breach (q.r.), but in the latter case he may get anything a sym-pathetic jury sees lit to award. In regard to duties 'owed to all the world,' it is to be observed that these are necessarily of a restricted nature. for, as has been observed, 'the law does not and cannot undertake to make men render active service to their neighbours at all times when a good or a brave man would do so.' exchange, horrowed from the practice. The bond of duty in most cases where of Venetian and Florentine merchants

the courts have held it to exist, will be found to depend really on an antecedent voluntary act of the party held liable (Pollock, On Torts); e.g. if I observe a cart and horse, the driver of which (a personal enemy of mine) has temporarily left it unguarded, proceeding to the brink of a steep cliff, I am not liable for damages for N. because I did not take the trouble to stop the horse from walking over the cliff, for it was not by any voluntary act of mine that the horse happened to stray. But if, e.p., I choose to run motor buses or any other vehicle along the streets, I am responsible for any injuries sustained therefrom by passers by which a jury or judge of fact is satisfied were due solely to the N. of my drivers. This example is useful to illustrate the meaning of 'contributory' N.; a N.; a person who might otherwise be enwas sufficient, for provided the care titled to damnies for injuries or loss sponsible person showed the care titled to damnies for injuries or loss whi to recover a farthing if, ing the other's N.,

minut tour at the decisive or last care any particular individual is moment in the transaction, have by the exercise of reasonable care and prudence averted such injury or loss. It is commonly said that N. is divisible into gross, slight, ordinary, and so forth. But the division is unsound and illogical. No doubt what would be gross N. in a bus driver would be usually far less so in the case of an inexpert man who was learning how to drive. But this won't affect the liability, for the law requires the standard of care or skill of the expert a case where special skill is to be expected; though,

n the above example, the personal duty may either be incident inexpert driver would probably incur no liability if, e.g., he were a passenger who had tried to stop a hus in the

sudden illness of the regular driver. Negombo, a tn. of Ceylon, on the W. coast, 20 m. N.W. of Colombo. Pop. 20,000.

Negotiable Instrument. The distinguishing features of a N. I. are: (1) It can be sued on by the holder in his own name: (2) the holder in due or preit passes e holder in due coursels not affected by certain defences which might be available against prior holders, e.g. fraud, undue influence, provided he himself were no party to such vitinting element. The law of N. Is. depends mainly upon statutes which them-selves have been framed exclusively on the custom of merchants. The carliest forms of N. 1s. were bills of

bonds payable to bearer. In the majority of cases it is essentially a question of fact to be proved by evidence whether or not a document is negotiable, though in cases where the negotiability is established, the court takes judicial notice of that fact, i.e. following documents, in addition to those already mentioned, are N. Is., bank-notes (see also CURRENCY), cheques, exchequer bills, dividend warrants, East India bonds, circular notes, certain scrip and bonds, e.g. debenture scrip and various American railway bonds (as to the marks of a valid custom see under that title). The law of N. I. in so far as bills of exchange, promissory notes, cheques, and bank-notes is concerned has long been codified in the Bills of Exchange Act. 1882. Postal orders are not negotiable if crossed for collection by a bank, though otherwise they can be freely transferred from hand to hand; are share certificates, warrants, and share transfers, hence the forgery of the true holder's signature will not affect his rights: nor an I.O.U. (q.v.); nor most kinds of scrip and bonds. Bills of lading can be transferred so as to give the transferee a right to sue in his own name, but otherwise they are not N. Is., because the transferee gets no better title than that of his transferor; and the same observations apply to policies of assurance. The holder in due course of a bill of exchange or any other N. I. is he who takes the instrument in good faith or without knowledge or notice of previous defects of title in it, and gives valuable consideration (see under Considera-But a holder is not put TION) for it. to the trouble of proving considera-tion unless the party resisting liability on the instrument established the existence of some defect, e.g. fraud, durcss, in the previous negotiation of the instrument. Sometimes bills or other N. Is. are marked 'not negotiable.' The effect of this is that the person receiving it will not have, and is not capable of giving, a better title to the instrument than that which the person from whom he took it had. But though the true owner is thus protected, the negotiability of the instrument is not otherwise affected.

Negri Sembilan, one of the Federated Malay states under British protection. It is situated on the western side of the Malay Peninsula, and has the Straits of Malacca for its western boundary with a coast-line of about Maklay, 'Ethnol. Excur. in the 29 m. There is, however, only one Peninsula,' in Journal of 14

in the middle ages, and, though much later, promissory notes. The list of N. Is. tends to increase, one of the latest additions being debenture bonds payable to bearer. In the majority of cases it is essentially a nall way 24½ m. in length. Agriculture is the main industry. Tin is worked in considerable quantities, and large numbers of elephants, question of fact to be proved by evidence whether or not a document is negotiable, though in cases where the 120,000 consists of Chinese, Malays, negotiability is established, the court

Negrito, or Negrillo, the name-originally applied by the Spaniards to the negro-like inhabitants of the Philippine Is., an aboriginal raco, somewhat dwarfed, inhabiting the mountains. They are of an extremely low type, having no dwellings, living on wild fruits and roots, and onanimals they can procure with their only weapon, the bow and arrow. They are devoid of arts, wear no clothes, and their religion is of the lowest. With the immense growth of knowledge of races during the last forty years, the name has been extended to cover many other peoples. as well as some represented by remains found in Central and Western Europe from the stone age. Besides the Aëtas or Philippine Ns., there are many tribes scattered over the mountainous regions of the Malay Pen-insula, such as the Jakuns, Sakais, and Samangs, the Andaman islanders or Mincopies, who are much purer than the others who have intermixed with the Malay races. These form the eastern division of the race. In Africathere are several tribes inhabiting the equatorial forests and the mountainous regions round the great lakes; the pygmics of the Congo and Ogoway. Among these are the Wochua and Akka, inhabiting the basin of the R. Welle, N. of the Congo: the Batwa, about the R. Kasa and its tributaries; the Oborgo, in the and its tributaries; the Obongo, in the western forests of equatorial Africa; in Masailand the Wandorobo, and in S. Galla-land the Dume. As in the case of the negroes, this race appears to have spread originally over the Indo-African continent, now sub-merged. There is marked likeness to the negro in colour, nature of the hair, protruding jaws; they are, however, of low stature, 3 ft. 6 in. to 4 ft. 10 in., and heads. In they show

negro, but the scale. See De Quatrefage, 'Les Négritos,' in Bol. Soc. de Géog., 1872: 'Distrib. Géog. des Négritos,' in Revue d'Ethnographie, 1882; A. B. Meyer, Ueher die N. oder Aëlas der Philippinen, 1873; E. H. Man, 'The Andaman Islands and their Inhabitants,' in Jour. of the Anthrop. Inst., 1885; ...' Maklay, 'Ethnol. Excur. in the Peninsula,' in Journal of the Peninsula, 'in Journal of the Peninsula,' in Journal of the Peninsula, 'in Journal of th

are largely

Straits Branch, 1878; L. Wray, 'The Cave-dwellers of Perak,' Jour. Anthrop. Inst., 1897; Tyson, Essay concerning the Pyymies of the Ancients, 1894; A. H. Keane, Man, Past and Present, 1900; W. Junker, Travels in Africa, 1900-2; W. A. Reed, 'Negritos of Zambales,' Philippine Elhn. Survey, vol. ii. pt. i., 1904; G. Hervé, 'Cranes Néol. Armoricains de Type Nécroide.' Bol. Soc. d'Anthropologie. Négroide,' Bol. Soc. d'Anthropologie, iv. 1903.

Negro, Rio: 1. A river of Argentina formed by the union of the Limay and Neuquen Rs., which rise in lakes in the Andes. It flows E. and S.E., and after a course of 400 m. enters the Atlantic 2. A river of S. America, rising in Colombia, under the name Guainia, It flows E and S., joining Amazon as tributary Manáos. It is navigable for steamers about 450 m.; for canoes 680 m. Total length about 1400 m.; breadth

11 to 15 m.

Negroes form one of the four great classes of the human race. In their purest form they are probably found along the Guinea coast, in the Gaboon, the basins of the Shari and Benua, and the lower Zambesi; but the Sudan is considered the home of the race. It is possible that they peopled Schlater's 'Lemuria,' a continent covering a large portion of the Indian Ocean, and became divided on the subsidence of the region in early and middle Tertiary times. The term is middle Tertiary times. generally restricted to the western or African branch, those of the eastern region, of S. India, Malay, New Guinea, etc., being Papuans or The former Malaysians. present various mixed types due to Caucasian lutter migration, the have been affected mostly by Mongolian move-ment. The N. characteristics are deep brown, almost black, skin, cool, velvety, and emitting a peculiar odour; short, black woolly hair of elliptical section; short, flat, broad, snub nose with depressed base and dilated nostrils; black eye, black iris, and yellow solerotic coat; prognathic jaws, facial angle 70°; thick lips, protruding and showing the inner red; very 70°);

Zuropean, 45); long arms, weak legs; flat, broad foot with low instep, and ' lark heel'; yellowish palms and soles; height (average 5 ft. 10 in.) above the A marked feature is the early closing of the cranial sutures, a premature ossification appearing prevent a full development of the brain. The children are described as sharp, vivacious, and intelligent, but deterioration commences at puberty, Malaspina or Canlaon (c. 8200 ft.), and the full-grown N. remains child- The mountain-ridge forms a continua-

like, unprogressive, lethargic, without initiation. In the arts, e.g. building, spinning, weaving, pottery, agriculture, the working of metals, they are moderately advanced, but have probably learnt these under Semitic influence and have certainly shown no development of their own. religion was very debased and cruel, fetishism, cannibalism, and slavery being the chief characteristics and outcomes, but they are now largely In U.S.A.

eptance childish in nature, and their moral status appears unable to rise to the Christian ideal. They have been described as non-moral, rather than immoral, which aptly expresses their undoubted lower stage of develop-They are childishly gay, and passionate, with childish rapidity in change of mood; thievish, unreliable, indolent, yet with a childish sub-ordination to authority, and marked faithfulness, yet subject to sudden failure. These points of character united to a marked sensuousness render them a serious social problem in the more progressive and civilised lands, particularly in America. Their republic, Hayti, has always had an evil name. The Negroid race is estimated at some 200,000,000. United States there are In the aro about

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See E. B. Tylor, Anthropology, 1881; A. H. Keane, Man, Past and Present,

The Story of H. Johnston, World, 1910;

Sir Spencer St. John. Hapti, or the Black Republic, 1884; A. B. Ellis, The Tshi, Eve., and Yoruba Speaking Peoples, 1887, 1890, 1894; F. G. Ruffl. Peoples, 1881, 1890, 1894; P. G. Hulli, Negro Education in Virginia, 1889; De Quatrefage, Les Races Humaines, 1882; G. Schweinfurth, Heart of Africa (trans. 1873); F. L. James, The Wild Tribes of the Sudan, 1883; Captain Binger, Du Niger au Golfe de Guinée. 1892; Dr. W. Junker, Travels in Africa, 1886; Dr. J. W. Gregory, The Great Rift Valley, 1896; M. Dybouski, Le Naturalisle Le Naturaliste

Short History . ' 1913; and for r Philadelphic 1 by Professor I

University of

Negros (formerly Buglas), an island of the S.W. Visayas group, Philippines, between Cebu (S.E.) and Panay (N.W.), with the active volcane. Mt. Malaspina or Canlain (c. 8200 ft.).

tion of Mindanao (Dapitan). Sugar cane, coffee, tobacco, and grain are produced, sugar-sacks, cabonegro and ahaca manufactured. Bacolod and Dumaguete, capitals of the Occi-dental and Oriental provinces, are the chief towns. Area 4840 sq. m. Pop. 460,000.

Negûs, a title of a king or ruler in Abyssinia, the emperor being 'negûs nagasti' (king of kings). In the last two centuries the rulers of Amhara

have claimed it.

Negus, the name of a drink consisting of wine (especially port) mixed with hot water, spiced and sugared.

Neheim, a tn. of Prussia in West-phalia, on the Ruhr, 20 m. S.E. of Dortmund. Pop. 10,919.

Nehemiah. The book of Nehemiah is closely connected with that of Ezra, and in the Jewish canon the two form a single book under the name of Ezra. It falls into three main divisions: (1) Chaps. i.-vii., written in the first person, tell how N., cup-bearer to Artaxerxes, learnt of the condition of Jerusalem, obtained leave to visit it and set about its restoration; (2) chaps. viii.-x., written in the third person, deal chiefly with the actions of Ezra in restoring the observance of the law; (3) chaps. xi.-xiii., deal with various additional subjects, providing various lists of people and places, and giving N.'s account of the dedication of the walls. The whole book is a compilation from various sources made some long time after the events

which they narrate.

Neile, Richard (1562-1640), Archbishop of York, born in Westminster.
Having taken his doctor's degree in divinity in 1600, he became in 1605
Dean of Westminster. In 1608 he was made Bishop of Rochester, and appointed Laud his chaplain, and in 1610 was translated to Lichfield, removing to Lincoln, 1614, Durham, 1617, and Winchester, 1628. He sat regularly on the High Commission and in the Star Chamber, and in 1631 was made Archbishop of York. Neilgherry Hills (S. India), see

NILGIRI HILLS.

Neilson, James Beaumont (1792-1865), inventor of the hot blast in the iron manufacture, born near Glasgow. As manager and engineer of the Glasgow Gasworks, he introduced many important improvements in the manufacture of gas, and also exerted him-self for the mental and technical improvement of the workmen under him, establishing a workman's institution. But his great invention was the hot blast, and to this he was led by the discovery that a hot blast substituted for a cold one produced three times as much iron with the same amount of fuel.

Neilson, Julia (b. 1869), an English actress, born in London. She made her first appearance at the Lyceum theatre in 1888 in Pygmalion and Galatea. Under Rutland Barrington's Galatea. Under Rutland Barrington's management at the St. James she became the leading lady, and was next engaged by Beerbohm Tree. She married Fred Terry, a prominent member of that celebrated family, and frequently toured with him as well as appearing on the London boards, both she and her husband being universal favourites. She has in The achieved marked success in The Dancing Girl; Sweet Nellof Old Drury; as Rosalind in 4s You Like It; as Oberon in A Midsummer Night's Dream; in Sunday; The Scarlet Pimpernel; Henry of Navarre; The Popinjay; and various other rôles. Her son and daughter are both on the stage.

Neilson, Lilian Adelaide (c. 1848-80). an assumed name of an English actress, Elizabeth Ann Brown, also known as Lizzie Bland (Bland being her stepfather's name). She made her début at Margate (1865). Her most celebrated rôle was that of Juliet, and in 1870 she scored a success in London at Appr. Below the insendence of the second in don as Amy Robsart in a dramatic version of Kenilworth, and also played Rebecca in Ivanhoe. She was popular also in America, appearing at Booth's Theatre, New York (1872). See Marston, Our Recent Actors, 1890. Neilston, a par. and tm. of Scotland.

in Renfrewshire, on the Leven, 9 m. S.W. of Glasgow. There are bleachfields, print-works, and cotton spinning mills. Pop. (1911) 15,214.

Neisse, a tn. of Silesia, Prussia, on the Glatzer Neisse, 30 m. S.W. of Oppeln. It was formerly the chief

town of a principality, and the residence of a bishop; the episcopal palace is now used for municipal offices. There are manufs. of firearms, machinery, furniture, blankets, lace, etc.; stone is quarried. Pop. 25,937.

Nejd, or Nejid (highland), a plateau region of Arabia, N. of the tropic of Cancer, between El Hasa and Hedjaz. The greater part consists of sandy desert, but where water is found the soil is fertile, and sheep and camels are reared. The chief towns are Riad, Oneise, and Bercide. Pop. 720,000. Nekrasov (or Nekrasoff), Nikolai Alexeievitch (or Alexeyevitch) (1821-c. 78), a Russian poet and Nihilist.

He owned (1847) and conducted the monthly magazine Sovremennik (The Contemporary), by means of which Nihilistic opinions were spread among the students of St. Petersburg University, and The Annals of the Fatherland. In 1840 he published Dreams and Elves.Other poems are: Peasants' Children; Russian Women; Hero for an Hour; Who li Russia? Last Songs. Who lives happily

Auguste Nélaton. (1807-73).French surgeon, professor of clinical surgery in the Faculty of Medicine at paris (1851-67). He was a very skilful operator, and invented 'Nélaton's probe,' used in searching for bullets. He was surgeon to Napoleon III. His chief work is Eléments de pathologie chirurgicale, 1844-61 (2nd ed. 1868-85).

Neledinsky-Meletzky, Yuru (1751-1829), an eminent Russian soldier and poet. He served in the campaigns against Turkey from 1770-74, and after peace was concluded joined the Russian embassy in Constantinople. He wrote a considerable number of songs and ballads which have considerable charm.

Nellore, or Nellur (ancient Sinhapur, lion city), cap. of N. dist., Madras, India, on the R. Pennar. In the neighbourhood are saltpetre refineries. Cotton textiles are manu-

factured. Pop. 33,000.

Nelson: 1. A municipal bor. of Lancashire, England, 3½ m. N. of Burnley. There are coal-mines in the vicinity, and the staple industry is the cotton manuf. Pop. (1911) 39,485. 2. A provincial dist. of New Zealand, in S. Island, with an area of 10,468 sq. m. It is extremely rich in iron, lead, copper ores, gold, and coal, and its agriculture is considerable. The cap., Nelson, founded in 1841, stands on Tasman Bay. It possesses a fine harbour, accessible to vessels drawing 18 ft. of water. The manufa. are soap, leather, cloth, etc., and there are breweries and jam factories. Nelson is the see of an Anglican bishop; there is also a college con-nected with the University of New Zealand. Pop. of dist. 43,000; of tn. 9000. 3. A tn. in the S.E. of British Columbia, Canada. It stands on the W. arm of the Kootenay Lake, and is w. arm of the Rootenay Lake, and is the chief town of the silver-mining district of W. Kootenay. The town was incorporated in 1897, and there are fine schools, churches, etc.; smelt-ing is the chief industry; there are

ing is the chief industry; there are saw-mills, and jam is manufactured. Pop. with suburbs, 7500.
Nelson, Horatio, Viscount Nelson (1758-1805), a British admiral, born at Burnham Thorpe, Norfolk; entered the navy at the age of twelve, and within eight years had attained to the rapk of commander. Ill-health to the rank of commander. Ill-health threatened to interfere with his career. for in 1780 he was unable to take up a command, but a rest in England did him good, and in the following year he was well enough to accept an appointment to the Albemarle. He cruised for many months without any particular success, but gave satis-

in officer, and earned the approval of Lord Hood. He was placed on half-pay in 1783, but not long after was appointed to the Boreas, and went to appointed to the Boreas, and went to the W. Indies, where he captured five ships engaged in irregular trading, in defiance of the instructions of Sir Richard Hughes. In 1785 at Nevis he married a young widow, Mrs. Nesbit, and returned to England. He and his wife now lived with his father at Burnham Thorpe for some years, and it was not until a war with France was threatened in 1793 that he was civen the command of the Anamemgiven the command of the Agamemnon, in which in August he conveyed troops to Naples, where he became acquainted with the English minister, Sir William Hamilton, and his beautisir winam Hamilton, and his beauti-ful and notorious wife, Emma. In the following year the commander-in-chief, Lord Hood, attacked Corsica, and gave N. the command of the landing party. N. was successful in the operations at Bastia and Calvi, but at the latter engagement lost the sight of one eye. He was promoted commodore in 1796, and in the following year, for his share in the victory off Cape St. Vincent, was raised to the rank of rear-admiral. In the same rank of rear-adminat. In the same year in an engagement he lost his right arm. For his successful attack on the French fleet in Aboukir Bay (1798) he was created Baron Nolson of the Nile. His attachment to Lady Hamilton was now very strong, and he was at Naples whenever he could possibly be there, Sir William Hamilton proving himself a most compla-cent husband. After his return to cent hasband. After his recurn to England in company with the Hamil-tons—a return necessitated by ill-health—N. and his wife separated. In 1801 he was promoted vice-admiral. and was in command of the attack on Copenhagen, and for his services was raised to the dignity of a viscount. He lived with the Hamiltons in London, and at their country-house, and after the death of Sir William in 1803 continued his intimacy with the widow. It is only fair to state that Lady Hamilton told Lord Minto that Lady Hamilton told Lord Minto that their relations were platonic. 'Lady Hamilton,' he wrote, 'talked very freely of her situation with Nelson, and of the construction the world may have put upon it; but protested that their attachment had been perfectly pure.' However, she bore him two children. In May 1803 N. wee an In May 1803 N. was apchildren. pointed to the command of the Mediterranean fleet, and made the Victory his flagship. He lay off Toulon in the hope of the French fleet coming into the open, and so being able to engage them. Napoleon's plan was for the French and Spanish fleets to meet in the W. Indies, and there combine into factory proof of his ability as an an overwhelming striking force. Vil-

leneuve, now in command of the French fleet at Toulon, managed to evade N., but a storm drove him back to the shelter of the forts; but later he was able to get away, while N. was delayed at Maddalena by contrary winds. He eventually, on Oct. 21, engaged the allied fleets off Trafalgar, and shortly before the action began, hoisted from the flag-ship the famous signal, 'England expects that every man will do his duty.' The victory was complete and decisive, but when the fate of the action was determined, N. was shot down on his quarter-deck and died a few hours later. 'Remember, I leave Lady Hamilton and my daughter Honoria as a legacy to my country, he said, as he lay dying. His last words were: 'Thank God, I have done my duty.' His body was brought home, and, after lying in brought nome, and, after lying in state at Greenwich, was publicly buried in Westminster Abbey on Jan. 6, 1806. There are many me-morials to him, the most notable being the lofty monument in Trafalgar Square. London. He was one of the greatest, if not the greatest, of British naval commanders, and his bravery and skill were beyond all prayery and skill were beyond an question. There are many biographies, the best being that by Clark and McArthur (1840), the most popular that by Robert Southey (1813). His despatches and letters have been action of the state of the stat

Nelson, Robert (1656-1715), an English philanthropist and religious writer, born in London. In 1680 he was elected to the Royal Society; in 1691 he became a nonjuror, and an active supporter of the S.P.C.K. and S.P.G. His chief works are: Transubstantiation contrary to Scripture, 1687; Companion for the Festivals and Fasts of the Church of England, 1704; and Life of Dr George Bull, 1713. See his Life by C.F. Secretan (1860).

Nelson Lines are run by Messrs. H. and W. Nelson, Ltd., who had in 1889 instituted a cargo service between England and Buenos Ayres. Their fleet consists of fourteen steamers, aggregating 79,080 tons, which run weekly from London to Monte Video and Buenos Ayres, and fortnightly from Liverpool.

Nelson River, a riv. of Canada, flowing from the N. extremity of Lake Winnipeg, which after a course of over 400 m. in a generally N.E. direction, empties its waters into Hudson Bay at York Factory. It is navigable for nearly 130 m. for vessels of moderate draught.

Nelsonville, a vil. and the centre of a coal-mining dist. in Athens co., Ohio, U.S.A. Pop. (1910) 6082.

Nematodes, Nematoidea, Thread-worms, or Round-worms, an order of unsegmented round-worms with a mouth, a swollen gullet, and a digestive canal running the whole length of the body. They vary in size from Eustrongilus gigas, of which the female exceeds a yard in length, to the very minute Heteroderas, parasitic on plants and less than 30 of an inch. They are mostly unisexual, the They are mostly unisexual, the females being by far the commoner and larger; the latter are oviparous or viviparous. In some N., notably the Strongyle, which causes 'gapes' in chickens, the male is attached to the female, the whole resembling in form the letter Y. A large proportion of N. are parasitic in animals, including men. Trichina spiralis enters cluding men. Trichina spiralis enters the human system from badly cooked pork, and millions of the worms of this species have been found in the body of a man. Many N. are the causes of very heavy losses amongst domesticated animals. Apart from intestinal N., one of the most serious parasites is Strongylus micrurus, which causes verminous bronchitis ('husk' or 'hoose') in calves that are put out during the autumn months on wet pastures. This and many other parasitic worms are checked or eradicated by the presence of salt in the soil. that are parasitic on plants have been a good deal investigated in recent years. With a retractile spear-like process in the head, they are able to force themselves into young plant tissue, where the irritation due to their presence causes abnormal development, most marked when it occurs in the root. One of the most serious is *Heterodera radicicola*, which causes root knot disease in tomatoes and cucumbers, and which for a time threatened to make their culture impossible in certain districts. It is now possible in certain districts. 12 is now controlled by heating the soil used for these crops by steam, which kills the N. and has the additional advantage of greatly improving the mechanical condition of the soil. Another N. is responsible for much of the soil and the districts of the soil and the soil of the soil and the soil of the soil o Another N. is responsible for much of what is called 'clover sickness,' and yet another is the cause of much loss in the wheat crop, the trouble being known as 'ear cockles.' Closely allied to these, and familiar by their wrigto these, and familiar by their wrig-gling movements, are the tiny white 'eels' found in paste, vinegar, fungi, and animal excreta. Many of them, both in the adult and egg stage, are possessed of extraordinary vitality, which explains much of the mystery of their appearance in supposedly inaccessible places. See Accurainaccessible places. S FILARIA, and TRICHINA. See ABCARIS, Nematus, see SAW-FLY.

Nemea, the ancient name of the valley of Argolis, between Cleone and were celebrated every two years the Nemean games of which Pindar sang tained a sacred grove, and a temple to Zeus.

Nemean Games, one of the four great national festivals of the Greeks, held at the beginning of the second and fourth year of each Olympiad at Nemea in Argolis. There were the usual athletic contests, horse-racing, and a competition for players of the cithara; palm branches and crowns of parsley were bestowed on the victors. They were celebrated under the presidency of Cleonæ, Argos, and Corinth in turn.

Nemertea, a subdivision of unsegmented worms allied to, and by some authorities arranged among, Platy-helminthes, the flat-worms; and it has been suggested that remote an-cestors of Nemertean type had a part in the evolution of vertebrates. They are long, ribbon-shaped animals. They have a straight intestine and a retractile proboscis. Most of them are marine, but a few occur in fresh water and a few also on land. It is doubtful whether any are true parasites. The colours of many of them are bright and varied. The generative organs are very simple; ciliated embryos are produced from eggs, and an interesting metamorphosis occurs to the adult form.

Nemesianus, Marcus Aurelius Olympius (fl. c. 280 A.D.), a Roman poet, born in Carthage, who lived under the reigns of Carus and his sons Carinus and Numerianus. He wrote poems on hunting, De Venatione, and Gynegetica; on fishing, Halientica; and on aquatics, Nautica. See Bahrens, Poeta Latini Minores (vol.

iii.), 1881.

Nemesis (Gk. Nemeric, distribution, retribution), in ancient Greek mythology the goddess of vengance and chastisement. She personifies the the authors of indignation felt at all disturbations are such favor

and characteristics are considered as a companying proportion, punishes arrogan boastfulness accompanying condinarily good fortune, and things once more within normal that it was fortied, to be called Adrastein, she whom none can escape.'

Nemesius (fl. c. 390 A.D.), a Christics of the components, N. and praseodymium, in 1885. The former gives rise to pink alts and the latter to green.

Neolithic, see STONE AGE. nbout the facts and dates of his life.

Ho is chiefly remembered as the learning of the gaseous consultant of Hepi, diverse discounting the consultant of Hepi, diverse discounting the chiefly remembered as the learning the gaseous consultant throughout the chiefly remembered the chiefly remembered as the gaseous consultant throughout the chiefly remembered as the gaseous consultant of the gaseous consultant throughout the chiefly remembered as the gaseous consultant of the gaseous

Phlius in the Peloponnesus. In it Bender, Untersuch über Nemesius. 1898.

Nemophila, a genus of hardy in his Nemean Odes. According to annuals (order Hydrophyllaceæ) with Greek mythology, Hercules slew the blue or white flowers and pinnatifid Nemean lion here. The yalley con-leaves. N. insignis is a brilliant blue annuals (order Hydrophyllaceæ) with with a white centre or eye.

Nemours, a tn. in the dept. of Seine-

Nemours, a tn. in the dept. of Seineet-Marne, France, 10 m. S. of Fontainebleau. Pop. 5000.

Nemours, Louis Charles Philippe
Raphael d'Orléans, Duc de (1814-96),
second son of King Louis Philippe.
The title of Duc de N. was first borne
by the Armagnae family, and was
revived in Louis Philippe. He was
also offered the throne of Greece
(1825) and of Relgium (1831), but (1825) and of Belgium (1831), but refused both honours. He fought in refused both honours. He fought in the Algerian expedition (1836-41), and after the revolution of 1848 lived in England till 1870. See R. Bazin's Le Duc de Nemours, 1907.

Nemuro, a port of Yezo, Japan, 265 m. E.N.E. of Hakodate. It has been an open port since 1910. There

is excellent fishing. Pop. 12,500. Nen, or Nene, a riv. rising in the W. of Northamptonshire, England, and flowing past Northampton and Peterborough into the Wash. Length 90 m.

Nenagh, a market tn. of co. Tip-perary, Ireland, 11 m. E.N.E. of Killaloe. It has slate quarries and the remains of a Norman keep, called Nenagh Round. Pop. 4700.

Nennius, the reputed author of an ancient history of the Britons entitled Historia Britonum; is said to have been abbot of Bangor at the beginning of the 7th century. The hook which is engished to the book, which is ascribed to him, commences with a fabulous account of the colonisation of the island. Its the colonisation of the island. the colonisation of the island. Its chronological blunders and the many other proofs of its want of authenticity render it a very unsafe historical authority. It is chiefly valuable on account of its containing those stories of King Arthur, Merlin, and other legendary heroes which become a court of the courts of the stories of the sto came such favourite themes among

Medithic, see STONE AGE.
Neon, one of the gaseous constituents

the three gases N., krypton, and The quantity of these is very minute. Ramsay considers that all four 'companions of argon' do not exceed $\frac{1}{100}$ of the volume of argon in air. It has been supposed that N. is produced from radium emanation, but the experiments lack conclusiveness. N. is extremely easy to detect spectroscopically, owing to its brilliant red spectrum. It has been observed in \(\frac{1}{2} \) of a cubic centimetre of air. As the gas only exists as one part in 100,000 of air, this means that of a cubic millimetre of N. has been detected spectroscopically.

Neophyte (Lat. neophylos, from Gk. ικόφυτος, newly planted), a name given by the primitive church to the new Christians, that is, to the pagans who had newly embraced Christianity and had been baptised. The term is still used by Roman Catholic missionaries to denote a convert from In general language, heathenism. newly entered upon, e.g. Ben Jonson's

neophyte player.

Neoplatonists, the name given to an illustrious succession of ancient philosophers who claimed to found their doctrines and speculations on those of Plato. The speculations of the older philosophers were felt to be un-satisfactory. When men began to review the long succession of contradictory or divergent systems that had prevailed since the time of Thales the Milesian, in the grey dawn of Greek history, a suspicion appears to have sprung up that reality, certainty, truth was either not attainable or could only be attained by selecting something from every system. More-over, the immensely extended inter-course of nations, itself a result of Roman conquest, had brought into the closest proximity a crowd of con-flicting opinions, beliefs, and practices, which could not help occasionally undergoing a confused amalgamation, and in this way presented to view a practical eclecticism, less refined and philosophical indeed than the speculative systems of the day, but not essentially different from them. This tendency to amalgamation showed itself most prominently in Alexandria, and here originated that philosophy promulgated by the N. which combines the peculiar mental characteristics of the East and the West. Yet it soon ceased to have any local connection with the city. Its most illustrious representatives were neither natives of Alexandria nor members of the famous Museum, and they had their schools elsewhere-in Rome, in Athens, and in Asia. It is not easy to say with whom Neoplatonism commenced.

Helium was first separated, and then I differ as to how much should be included under that term. By some it is used to designate the whole new intellectual movement proceeding from Alexandria, comprising, in this broad view, the philosophy, first, of Philo-Judeus and of Numenius the Syrian; second, of the Christian Fathers (Clemens Alexandrinus, Origen, etc.); third, of the Gnostics; and fourth, of Ammonius Saccas and his successors. Others, again, would ex-clude the second of these (though the Alexandrian divines frequently Platonise), while a third party is disposed to restrict the application of the term to the fourth. The last of these modes of regarding Neoplatonism is the one most current. A fresh stream of life was first poured into the old channels of Platonic speculation by Ammonius Saccas and Plotinus, and it is this fact which gives the school which they established its best claim to the school with the stablished its best claim to the school with the stablished its best claim to the school with the school which is this school with the school which is the school with th of Platonic speculation by Ammonius essence of all the Alexandrian speculations consists in the blending of Platonic ideas with Oriental mysticism; the peculiarity of the N., strictly so called, lies simply in the novelty. audacity, and ingenuity of their reasonings. They aimed at constructing a religion on a basis of dialectics. They strove to attain a knowledge of the Highest by assuming the exist-ence of a capacity in man for passing beyond the limits of his personality. and acquiring an intuitive knowledge of the absolute, the true—that which is beyond and above the fluctuations and dubieties of 'opinion.' This imand dubicues or opinion. 'nis impersonal faculty is called *Ecstasy*. Plotinus, in fact, set out from the belief that 'philosophy' (i.e. 'Absolute Truth') is only possible through the identity of the thinker, or rather of the subjective thought, with the thing thought of, or the objective thought. The god of Plotinus and the other Alexandrians is a mystical Trinity. The Divine Nature contains within it three Hypostases (Substances); its basis, if we may so speak, is called Unity, also poetically Primitive Light. From Unity, as the things, primordial source of all things, emanates 'Pure Intelligence' (Nous); its reflection and image, that by which it is intuitively apprehended, from Pure Intelligence, in turn, emanates the 'Soul of the World' (Psyche tou pantos), whose creative activity produces the souls of men and animals and 'Nature'; and finally, finally, from Nature proceeds 'Matter,' which, however, is subjected by Plotinus to such refinement Nature proceeds of definition that it loses all its grosssia. It is ness. Unity, Pure Intelligence, and the World-Soul thus constitute the Scholars Plotinian Triad. Other Neoplatonic

philosophers were Porphyrius, Iam-blichus, Ædesius, and Proclus. 5,000,000. Neoptolemus, in ancient Greek Nepenthes, a.g.

Neoptolemus, in ancient Greek legend, the son of Achilles and Deidamia; he is also called Pyrrhus. At the death of his father he was taken by Ulysses to Troy, and he was one of the Greek heroes who entered Troy in the wooden horse.

fall of Troy he slew the aged Priam.
Neosho: I. Co. seat of Newton co.,
Missouri, U.S.A., in the centre of a
zinc and lead-mining district. It has a government fish hatchery and many manufs. Pop. (1910) 6421.
2. Ariv., rising in Morris co., Kansas, U.S.A., and flowing through Indian territory into the Arkansas R., near Fort Gibson. Length 400 m.

Neottia, Nidus-Avis, see Orchips.

Noorda, massays, see Orchids.
Noordo, a term introduced by
Edward Forbes to include all the
strata from the Trias to the most
recent deposits. They are generally
divided into the two great groups of
Secondary and Tertiary rocks. This
division is however control.

division is, however, quite arbitrary.

Neps, a genus of hemipterous insects of the family Hydrocorise.

See WATER-BUGS.

Nepaul, an independent native state of India, comprises a portion of the southern slope of the Himalayas; is bounded on the N. by Tibet, on the S. and W. by British India, and on the E. by Sikkim, a protected state. The state is separated from the plains of India by the long narrow strip of land, resembling an English down, but unhealthy, called the Terai, which extends along the whole south-Terai, ern border. North of this, and run-cleolite, large crystals or massive ning parallel with it, is the great with varying colours owing to the forest of N., from 8 to 10 m. broad, presence of other minerals. When of abounding in wild animals. North of a good colour, examples of cheolite and above that are two tracts of include

est (29,002 ft.), and e principal Rapti, the tributaries, mate, most iealthy and ionntainous

districts, suggesting that of Southern Europe. The soil is extremely rich and fruitful. Barley, millet, rice, maize, wheat, cotton, tobacco, sugarcane, pine apple, and various tropical fruits are cultivated. Gold, silver, lead, iron, and copper mines are worked. The inhabitants consist mainly of Ghurkas, with other tribes of Tartar origin, such as Magars, Gurangs, Newars, and Bhutins. The cap. is Khatmandu (q.r.). The state Pop. (estimated)

Nepenthes, a genus-the only one of the order Nepenthacee-of remarkable shrubby plants with small green or brown flowers, borne in long racemes, and with leaves dilated at the ends into pitcher-shaped appendages with a lid-like lamina. The broad strap-shaped portion of the plant, which resembles a leaf blade, is The the wing petiole or leaf stalk. size of the pitcher varies from that of a thimble to about 20 in. in length, with a capacity of about two quarts. The pitchers act as traps for insects and larger the bright

by a hone antrance. Their function is to provide nitrogenous food for the plant. About thirty species are known, mostly natives of tropical Asia and the Malay Is. The culture of Ns. is easy if abundance of moisture and a tropical temperature can be provided. The pitchers must be kept partly full of water. The roots should be set in well-drained baskets containing peat fibre and sphagnum.

Nepheline, a rock-forming mineral consisting of sodium, potassium, and aluminium silicate, Na.K.Al,Si,O., It crystallises in the hexagonal system; the crystals are transparent, have a hardness of 5½, and a specific gravity of 2.6. Two varieties of the mineral are found: 'glassy nepheline.' in small, transparent crystals occurring in late volcanic rocks such as the blocks ejected from Vesuvius; and 'cheolite,' large crystals or massive with varying colours owing to the presence of other minerals. When of

are out as gems.

Nephelium, see LITCHI and LONGAN. Nophrite, also known as Jado or Axestone, is a hard mineral (hardness 7, and 8p. gr. 3), and occurs massive, compact, very tough, and without any cleavage. In colour it varies from white to bluish-green, and may be blotched or veined. It is sometimes translucent, and is greasy to the touch. In composition it is a silicate of magnesia and lime, although some alumina and oxide of iron are often The composition is very and some mineralogists present. variable, and some mineralogists regard it as a massive form of tremolite. It is found in granite, gnels, greenstone, etc. It was confused with jadeite until Damour (1863) showed that indette was silicate of alumina and lithia, which is fusible, whereas N. is infusible. N. takes a beautiful polish, and is highly prized for ornais administered by the maharajah and ments, especially the bright green his prime minister, and there is a varieties. The Tarks made it into British resident at the capital. Area handles for sabres. Many imaginary. Thus people once wore it as a charm against epileptic fits and nephritic (Gk. nephros, kidney) complaints; hence its name. The principal sources of the mineral at the present day are New Zealand, China, N.W. America, Corsica, and Egypt.

Nephritis. inflammation οť the There are many forms of kidnevs. kidney inflammation, due to a wide variety of causes. In most cases poisonous substances are brought to the kidney by the blood stream, so that kidney disease is a frequent complication of such diseases as gout, typhoid and scarlet fevers, tuberculosis, etc. In chronic interstitial mephritis, or granular kidney, the muscular coat undergoes fibroid and hypertrophic changes, and becomes uneven in surface. There is a marked increase of connective tissue about the tubules and glomerules. symptoms, as of nephritis generally, are anemia, weakness, digestive dis-turbances, and bloody urine. Acute Bright's disease is characterised by enlarged and congested kidneys. Many tubules contain casts, and these are thrown off in the urine, giving a characteristic indication. The symptoms are fever, lumbar pains, dropsy with albumin, blood, epithelial cells, and cart in the work. and casts in the urine.

Nephrodium, a large genus of hardy greenhouse and stovehouse ferns of wide geographical distribution, characterised chiefly by the kidney-shaped indusium or spore cover. Many species and varieties are cultivated, and may be easily raised from spores.

Nephrolepis, or Ladder Fern, a small genus of ferns with long, narrow, leathery ferns. They are of great beauty and are easily grown in hanging baskets in the stovehouse where moisture is abundant.

Nepigon Lake, see NIPTGON. Nepomuk, or Pomuk, John of, the patron saint of Bohemia, see John, St.

Nepos, Cornelius, the contemporary and friend of Cicero, Atticus, and Catullus. N. wrote historical works, and there is extant under his name a work entitled Vitæ Excellentium Imperatorum. But in all MSS. this work is ascribed to Æmilius Probus with the exception of the lives of Attieus and of Cato the censor, which are attributed to N. It is probable that Probus abridged the work of N., and that the biographies, as they now exist, are epitomes of lives actually written by N.

Nepos, Flavius Julius (d. 480), the last but one of the emperors of the West, born in Dalmatia. He was the nephew of Marcellinus and the son-in-law of Leo I., Emperor of the East, who proclaimed N. Emperor

virtues have been ascribed to it, of the West in 474. He crushed his rival, Glycerius, and made peace with the Visigoths by ceding to them the Gallic province of Auvergne. He was driven out of Italy by Orestes, but re-tained his power in Dalmatia until his murder in 480 at Salona.

Neposcope, an instrument adapted for the observation of the direction of the motion of a cloud and its velocity. There are many varieties of such instruments; the simplest form consists of a circular mirror with a graduated rim in which the reflection of a point of cloud is seen. The reflection is made to coincide with that of a small knob above the mirror, and the motion of the knob gives data from which the motion of the cloud relative to the mirror can be deter-A similar observation taken mined. by another observer some distance away enables the true direction and velocity of a cloud to be determined. In the hands of meteorological experts these instruments provide information of value in the investigation of aerial phenomena.

Neptune, see Poseidon. Neptune. The discovery of N., the outermost planet of our solar system, is the most triumphant record of mathematical astronomy. Adams of Cambridge (1845) and Leverrier of Paris (1846) both determined its position from no other data than certain perturbations of Uranus. Galle, instructed by Leverrier, found the planet, Sept. 23, 1846, within half an hour. Its magnitude lies between 8 and 9, and it is invisible to the naked eye, though visible through a good opera glass as a greenish disc; apparent diameter, 2.6°; real diameter, 35,000 m., but uncertain; volume, eighty-five times that of the earth, its mass seventeen times; density, 0'2. The distance does not follow Bode's law, being 2,800,000,000 m from the sun; the orbit has an eccentricity of '009, the least with the excention of Vous making a life. exception of Venus, making a difference of solar distance of 50,000,000 m. Inclination of orbit, 11°; revolution completed in 164 years at a velocity of about 31 m. per sec.; rotation not yet determined. The spectrum, the light being feeble, is difficult to determine, and indicates the presence of a dense atmosphere similar to Uranus; dark band in the red, not yet deter-Satellite, discovered mined. Lassell in 1846; distance, 223,000 m.; period, 5 days 21 hrs. 2.7 mins.; orbital inclination, 34° 53', moving backwards like those of Uranus.

Neptune, a British battleship of ,900 tons' displacement, speed 19,900 displacement, speed s. She was built at about 21 knots. She was built at Portsmouth; launched, 1909 com-

pleted, 1911.

Nerchinsk, or Nertchinsk, a tn. in e prov. of Transbaikalia, E. Siberia, on the Nercha R., 135 m. E. of Chita. Pop. 7000.

Nerchinski Zavod, a tn. in the

Nerchinski Zavod, a tn. in the prov. of Transbaikalia, E. Siberia, 184 m. S.E. of Nerchinsk. It has a meteorological observatory and is the centre of a gold-mining district. Pop. (with convicts) 67,000.

Nereids, in Greek mythology, the nymphs of the sea, the daughters of Nereus and Doris. The most famous

of them were Amphirite, the wife of Poscidon; Thetis, the mother of Achilles, and Gelatia. See NYMPH.

Nereis, a genus of Polycheta or marine chetopod worms, with long slender bodies and a flat four-eyed N. pelagica, commonly found on the coast under stones, is about 6 in. long and brilliantly iridescent.

Nercus, in Greek mythology, a god of the sea, the son of Pontus and Gæa. He married the Oceanide, Doris, by whom he became father of the Nercids. He had the gift of prophecy and the power to change his form at will. He is generally represented as a calm and gentle old man bearing a trident.

Nergal, the Assyrian god of hunt-ing, was also identified according to the Assyrian tradition with the planet Mars. This god was represented in sculpture as a winged lion with a

human head.

Neri, Philip de (1515-95), a saint of the Roman Catholic Church, born in Florence. In 1550, in unison with pina, t' several of his friends, he established a Cæsar. several of his friends, he established to of the confraternity for the care of poor pil-grims visiting Rome, as well as of the adopted him (50 A.D.), and his name, narbus, Corsar death

was founded by St. Philip in concert with his friends Baronius and Tarugio, both afterwards cardinals, Sabriati, and some others. The main object of this association was the moral instruction and religious training of the young and uneducated. Sacredmusicalentertainments(thence

Nerine, a genus of bulbous plants (order Amaryllidacem) with clusters of star shaped, brightly coloured flowers borne on tall, elegant stems. The best-known species is N. sarnien-sis (the Guernsey lily), a native of S. Africa, which in autumn bears rose-pink flowers, but has numerous varieties. N. folhergilli bears glistening scarlet flowers on a rigidly crect stem. Ns. flower in the open in warm localities, but are usually grown in the greenhouse, requiring only protection from frosts and when in full growth liberal watering.

Neris-les-Bains, see MONTLUCON. Nerium, a genus of evergreen flowering shrubs (Apocynaceæ), bearing richly-coloured cymes of funnel-shaped flowers. The species cultivated are N. Oleander (the oleander) and N. odoratum, both of which have numerous florists' varieties. can be treated either as greenhouse

or as half-hardy shrubs.
Nerja, a com. of Spain in the prov.
of Malaga, on the Mediterranean,
26 m. E. of Malaga. Pop. 7000.
Nernst, Walther (b. 1864), a German chemist, born at Briesen in W.
Prussia. He is director of the University Lethers. versity Institute for Physical Chemistry at Berlin. His chief publication, Theoretische Chemie, has been translated into English He invented the Nernst electric lamp.

Nero (37-68 A.D.), a Roman emperor, born at Antium, the son of Ca. Domitius Ahenobarbus and of Agrippina, t'

death was the germ of the more celebrated Guards, at the instinction of Afrantus Congregation of the Oratory, which Burrhus, their profest declared him was founded by St. Distinction. Burrhus, their prefect, declared him emperor, instead of Claudius's son Britannicus. His reign began with the semblance of moderation and good promise, under the guidance of Burrhus and his tutor Seneca the philosopher; but the baleful influence of his mother, together with his own moral weakness and sensuality, frustrated their efforts, and he soon plunged headlong into debauchery, extravagance, and tyranuy. He caused Britannicus, the son of Claudius to be treacherously relegand at Sacred musical entertainments (thence called by the name of oradorio) were frustrated their efforts, and he soon held in the oratory. He was canonised by Gregory XV. in 1622.

Neri, Pompeo (1707-76), an Italian jurist and political economist. He was professor of public law at Pisa, the age of fourteen, and afterwards and moved to Florence in 1758, becoming counsellor of the regency during Leopold's minority. N. please his mistress, Poppea Sabina (the founded the Tuscan Academy of Wife of his principal boon-companion, and wrote on currency etc. Other orators and serguality. In worth weakness and senguality of plunded in the soon blunged headlong into debauchery, extravagance, and tyranuy. He caused Britannicus, the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, to be treacherously polsoned at the soon of Claudius, the soon o Botany, and wrote on currency, etc. Otho, afterwards emperor), in order See Ridolfi, Elogio di P. Neri, 1817; to marry whom he also divorced and Nouv. Biog. Univ., 1852-66; Rose, afterwards put to death his wife, Biog. Diet., 1818.

may be estimated from the fact that it actually issued an address congratulating the hateful matricide on the death of Agrippina. The affairs of the empire were at this time far from tranquil. In 61 A.D. an insur-rection broke out in Britain under Queen Boadicea, which was, however, suppressed by Suetonius Paulinus. At home matters were not much better. The emperor was lamponed in verse; the senate and priesthood, alike venal, were also satirised by audacious malcontents; Burrhus, a valuable friend, died; and even Seneca, though not a great moralist, out of his books, thought it only decent to remove from court, In July 64 occurred a great conflagration in Rome, by which two-thirds of the city was reduced to ashes. N. himself is usually believed to have been the incendiary. It is said that he admired the spectacle from a distance, reciting verses about the burning of Troy, but many scholars are doubtful whether he really had any hand in it. At all events, he laid the blame on the Christians, and persecuted them with great fury. He rebuilt the city with great magnificence, and reared for himself on the Palatine Hill a splendid palace, called, from the immense profusion of its golden ornaments, the Aurea Domus, or Golden House; and in order to provide for this expenditure, and for the gratification of the Roman populace by spectacles and distributions of corn, Italy and the provinces were unsparingly plun-dered. A conspiracy against him failed in the year 65, and Seneca and the poet Lucan fell victims to his vengeance. In a fit of passion he mur-dered his wife Poppæa by kicking her when she was pregnant. He then proposed to Antonia, the daughter of Claudius, but was refused, whereupon he caused the too fastidious lady to be put to death, and married Statilia Messallina, after killing her husband. His vanity led him to seek distinction as a poet, a philosopher, an actor, a musician, and a charioteer, and he received sycophantic applauses, not only in Italy, but in Greece, to which, upon invitation of the Greek cities, he made a visit in 67. But in 68, the Gallic and Spanish legions, and after them the Prætorian Guards, rose against him to make Galba emperor, and N. fled from Rome to the house of a freedman, Phaon, about four miles distant. The senate, which had hitherto been most subservient, declared him an enemy of his country, and the tyrant ended his life by suicide on June 11, 68.

The low servility into which the general who was consul in 207 B.c. Roman senate had sunk at this time In that year heintercepted Hasdrubal, who was crossing from Spain to Italy with reinforcements for Hannibal, and severely defeated him at the battle of the Metaurus. Over 50,000 Carthaginians perished, and amongst them Hasdrubal himself. censor several years later.

Nervous

Nero, Tiberius Claudius, a Roman soldier, served as quæstor under Cæsar in 47 B.C., and was on the side of Brutus after the latter's death, but was later reconciled to Octavius. He is principally known as the husband of Livia Drusilla, and father of her two sons Drusus and Tiberius, the latter of whom became emperor. In 38 Octavius divorced his wife, Scribonia, and married Livia, who had obtained a divorce from N.

Neroli, Oil of, see Orange. Nertchinsk, see NERCHINSK

Neruda, Madame, see Halle, Lady. Nerva, Marcus Cocceius (32-98 A.D.) a Roman emperor for scarcely two years. He had previously served the Roman state as prætor, then as consul. He was appointed emperor upon the death of Domitian, but his honours sat heavily on him, and he gladly reigned jointly with Trajan until his death.

Nerval, Gérard de (1808-55), the adopted name of Gérard Labrunie, a French man of letters. In 1828 he published a translation of Goethe's Faust, and later on he collaborated with Théophile Gautier. He was a great traveller, and narrated his adventures in the *Révue des Deux Mondes*. His most interesting literary contribution is his Aurélie, ou le Rêve et la Vie. He wrote many charming short stories, which reveal an attractive personality, and which flow in a spontaneous graceful manner.

Nervi, a tn. and seaside resort in the prov. of Genoa, Italy, 6 m. S.E. of Genoa. Pop. 7000.

Nervous System, that part of the mechanism of the body whose special function is the co-ordination or control of the activities of the organs. The system is composed of nervecells or neurons, which are linked together and capable of sending impulses from one to the other. In other words, the nerve-cell has a life or metabolic existence of its own, which is modified in a particular manner by certain stimuli received from outside itself, and which modifies the metabolism of an adjacent nerve-cell or certain other cells, such as those of muscle. In this way impulses are conveyed from the exterior to centres within the body, and from such d the tyrant ended his life by centres to other centres or to other clicide on June 11, 68.

Nero, Gnaius Claudius, a Roman called nerve-currents are divisible

which involve movements in certain structures, as the contraction of a muscle; those changes which involve modifications in consciousness, as a special or general sensation; and those changes which are merely chemical, that is, which stimulate the production of certain substances, as in the various secretory organs. The different nerves are responsive to The different stimuli, and each nerve transmits its impulse in one direction only. The latter property has given rise to the distinction between efferent and afferent nerves: those that conduct impulses outwards from a nervous centre, and those that conduct impulses towards the centre. The chief kinds of efferent nerves are: (1) Molor nerves, which go to voluntary or involuntary muscles and cause them to contract; (2) Accelerator nerves, which produce an increase in the rate of rhythmical action, such as those which make the heart beat at a greater speed; (3) Inhibitory nerves, those which retard the rate of rhythmical motion, or stop it altogether; and (4) Secretory nerves, those which cause secretion to flow out from the various glands. The chief kinds of afferent nerves are: (1) Those which conduct impulses to the central system and there give rise to impulses to be carried away by efferent nerves, as in reflex action; (2) those which convey impulses giving rise to the special sensations of sight, hear-ing, etc.; (3) those which convey general or non-localised sensations; and (4) those which give rise to the experience of pain. The N. S. is also to be classified according to the anatomical disposition of the nerves and nervous organs. The most con-venient classification involves three divisions: the central N. S., the peripheral N. S., and the sympathetic nerves. These divisions are somewhat arbitrary, but they are sanctioned by custom and convenience. The central N. S. consists of the brain and spinal cord. The peripheral system consists of the cranial nerves, the spinal nerves, the sense organs, as the eye, ear, etc., and the motor cond-plates. The sympathetic system consists of the ganglia situated on either side of the spinal column, with the connections. with their connections. Before de-scribing these systems in detail, the properties of nerve-substance in general must, be discussed.

ming, and corpora geniculata. (3)
Nervous tissue is of three kinds:
nerve-cells, nerve-fibres, and neurorlla, or connecting tissue. Nerverells vary greatly in form and size,
The form of cell which makes up the
brain and splind cord consists of a (5) The Trigeminal nerve is multiprotoplasmic nucleated body, from sensory. It divides into three main

into three classes: those changes which arise certain processes. process is known as the axis-culinder process or axon, and the others are collectively called the dendrites. The axon possesses a uniform diameter and throws off collateral branches without diminishing in section; the dendrites divide into numerous branches, which taper off as they pass from the cell-body. The axon appears to be the structure by which communication is made between cell and cell, and it is an essential part, not only of a nerve-cell, but of a nervefibre. In some fibres the thread-like axon becomes sheathed with a substance called myclin; it is then called a medulated fibre; if the sheath is absent, it is called a non-medullated fib flb ı called th · lcmma, pli fil: a if the of the br nerve-· ile the ce: w cord is vithout m a. .c-fibres 1777 narts of the body are bound up in bundles which we call nerves.

-Thecentral consists of th .l Cord, both of which are elsewhere described. The most important part of the brain is the cortex, which is made up of grey matter. There are subsidiary masses of grey matter in the interior of the brain, in the cerebellum, and in the spinal cord. It is in this grey matter that voluntary action arises, and to give rise

masses of with involuntary and reliex actions. while the white matter may be looked upon as a communicating medium only.

Cranial nerves,-These nerves are concerned mainly with the supply of the head. There are twelve pairs of them, and they are spoken of by their numbers as well as their names: (1) The Olfactory nerve is purely sensory; it comes from the nose and proceeds to the cerebrum; it is the nerve of smell. (2) The Optic nerve is purely sensory; it enters the cychall at the rear and connects with the cerebrum by way of subsidiary masses of grey matter called the corpora quadrigemina, and corpora geniculata.

region. It has a smaller motor branch for the muscles of mastication. The Abducent nerve is muscular and supplies the external rectus muscle of the eye. (7) The Facial nerve is a motor nerve, supplying the facial muscles. Injury to this nerve causes the loss of all power of facial movement and expression. (8) The Auditory nerve is divided into two parts: the cochlear nerve, which is the nerve of hearing, and the vesti nerve, which connects with the circular canals and conveys

impulses which enable the body to be kept in equilibrium. (9) The Glosso-pharyngeal nerve is mixed sensory and motor. Certain muscles of the pharynx are impelled to action by it, while other fibres are concerned in the sense of taste. (10) The Vagus or Pneumogastric nerve has varied functions; it contains fibres which convey motor impulses to the stomach and intestines, afterent impulses from the lungs, etc. (11) The Spinal Accessory nerve contains motor fibres for the larynx and some inhibitory fibres for the heart; it also supplies a few muscles in the neck and back. (12) The Hypoglossal nerve is the motor

nerve for the tongue muscles.

The Spinal nerves arise from the spinal cord and run out through holes between the vertebræ to supply the trunk and limbs, though some of the upper ones are concerned with the head and face. The division into spinal and cranial nerves is arbitrary and not real. There are thirty-one pairs of spinal nerves, whose names depend on the part of the spinal column from which they pass. Thus there are eight cervical, twelve dorsal, or thoracic, five lumbar, five sacral, and one coccygeal. Each spinal nerve is a mixed nerve, containing both motor and sensory fibres. As they emerge from the spinal cord, the motor and sensory bundles are separated. The sensory fibres come from the back of the spinal cord; their point of emergence is called the posterior root, and a spinal gauglion is situated at that point, consisting of a collection of nerve-cells which have two axis-cylinders proceeding from them, by which the cells communicate in one direction with the skin, and in the other with the spinal cord or brain. The motor fibres sprout from the grey matter of the spinal cord, and proceed by way of the anterior roots to the mixed nerves, and thence to their destination in end-plates of the voluntary muscles.

Sympathetic system.—Some of the an English architect, born at Bath. anterior root fibres pass to a chain of He led the Gothic revival, and his

branches for the upper, middle, and ganglia running down on each side of lower portion of the head and face the vertebral column called the sympathetic chain. These ganglia consist of nerve-cells, and the fibres from the anterior roots branch round these cells and stimulate them to send out impulses by their own axis-cylinder processes to the involuntary muscles. The medullated fibres which carry the impulses from the spinal cord to the ganglia are termed pre-ganglionic; those which start from the ganglia are

called postwhich affect must not be the ganglia.

The ganglia serve as re-distributing stations, where an impulse received from one afferent fibre may be communicated to a number of cells in the ganglion which convey by their own axis-cylinders the impulses to the various involuntary muscles. Among muscles served are those which effect the peristaltic movements of the alimentary tract, those which constrict the arteries and regulate the circula-tion, including the muscles of the heart to some degree, the unstriped muscles of the lungs and windpipe, those which control the size of the pupil of the eye-ball, those connected with the sweat glands of the skin,

etc. Diseases of the nervous system.— These may affect the system as a whole, or be localised. Neurasthenia (o.v.) is a general weakness of the nerves; neuralgia (q.v.) is often caused by pressure from neighbouring infigured tissue; neuritis (q.v.) is in-flammation of a bundle of nerve-fibres, either localised or multiple. Any change in the blood supply is liable to lead to modification of the nerve substance; hence the effects of alcohol and the toxins of micro-organisms. Excessive stimulation of the nerves is likely to lead to general lack of tone, while the effect of injury or of neighbouring growths may involve disturbance of function in the nervous system. Degeneration of the neurones is apt to be affected by heredity, and leads to widespread or localised breaking down of function, and consequent atrophy of the part affected. In locomotor ataxy the afferent nerves are particularly affected. This leads to unco-ordinated state of the muscular and N. S.: the patient cannot stand without falling and the reflexes are absent. Progressive muscular atrophy is associated with nerves of sane is

the cortex (see Insanity).
Nesfield, William Eden (1835-88),

book, Skelches from France and Italy, is a text-book on the subject. He designed Kimmel Park, Cloverly Hall Loughton Hall, and Westcombe Park.

Ness (Eng. nose, A.-S. nase, Ger. nase, Icelandio nes, Lat. nasus, Fr. nez), a geographical termination, signifying promontory. Names in -ness abound among the Orkney and Shetland Islands, and on the coast of Caithness; and along the E. coast of Great Britain as far as Dungeness in As the corresponding ter-Kent. mination -næs prevails in Scandinavia, the existence of names in -ness Scandinavian colonisation.

Ness, Loch, a long narrow lake in Inverness-shire, Scotland, extends N.E. and S.W., and is 23 m. in length, and 11 m. in average breadth. It receives the Morriston, the Oich, the Foyers, and other streams, and its surplus water is carried off to the Moray Firth by the R. Ness. In many places it is 130 fathoms in

depth.

Nesselrode, Karl Robert Count (1780-1862), a Russian statesman, born at Lisbon, of German descent. He took an active part in the nego-tiations for the peace of Tilsit in the tiations for the peace of Tilsit in the Nests, in natural history, are the Napoleonic campaign, and acted as intermediary between Alexander I. or any other animal for incubation, and Tallayand alexander animal for incubation, and Talleyrand, always maintai he was attached to the Russian bassy in Paris. He took part in Congress of Vienna. After signing the peace of Paris (1856) he resigned.

Necessary Herry Free Congress of Vienna, After signing the peace of Paris (1856) he resigned.

Nossus, see HERCULES.

Nestor, in Greek legend, was the son of Neleus, King of Pylos, the husband of Eurydice, and father of Perseus.
When his father's kingdom was invaded by Hercules, he alone of his
brothers was spared. He fought against the Arcadians, Eleans, and Centaurs, and took part in the siege In his old age he was re-

nowned for his wisdom.

Nestorius (d. c. 450 A.D.), a native of Germanicia, a city of Northern Syria, in the patriarchate of Antioch, was probably a disciple of the celebrated Theodore of Mopsuestia; and having received priest's orders at Antioch, he was selected by the em-peror, in 428 A.D., as patriarch of Constantinople. Soon after his consecration, a controversy arose as to the divine and human natures of our One of the priests who followed N. to Constantinople, Anastasius, having in a sermon, which was by some ascribed to N. himself, denied that the Virgin Mary could be truly called the 'Mother of God,' being called the 'Mother of God,' being N. to the complex structures of the only in truth the mother of the man Christ,' N. warmly defended Anas- of site is plainty due to the instinct tasius, cenoused this view, and of concealment. Some fish and some

elaborated it into the theory which has since been known by his name, and which equivalently, if not in formal terms, exaggerated the distinction of two natures in our Lord into a distinction of two persons—the human person of Christ and the Divine Person of the Word. An animated controversy ensued, which drew from Cyril, patriarch of Alexandria, a formal condemnation of the doctrine of N. in twelve anathemas still preserved, and a similar condemnation, accompanied by a threat of deposition and excommunication, in Britain is held as an evidence of from Celestine, Bishop of Rome. N. remaining firm in his opinions, a general council was convened at Ephesus in 431, at which Cyril took the most active and prominent part, and at which, notwithstanding the absence of the patriarch of Antioch and his bishops, N. was condemned and deposed. Considerable opposition was offered to this, but ultimately N. was confined in a monastery near Constantinople, whence, after four years, he was banished to the Greater Oasis in Upper Egypt, and after soveral changes of his place of confinement, died in exile.

'C

originated primarily in the desire for concealment and protection, conceannent and processing that are content with slight depressions in the ground, such as terms and plovers, lay eggs which so that they A decided N. is the burrow, such as that occupied by the sand martin, kingfisher, or putlin. In many cases these underground N. are made in burrows left by rabbits or voles. Many birds and some animals make their N. in the hollows of trees; the female of the Bornean rhinoceros hornbill is scaled up by the male for many weeks, and thus absolutely protected. The mud N. of the swallow family and other birds are wonderful examples of industry. Some of these weigh as much as eight or nine pounds. Among the crudest N. that are made with collected material, such as sticks, leaves, blades of grass, or hair, are those of the wood pigeon, which are so loosely put together that the eggs are visible through them. The evolution of such

great nest-building craft.

Nests, Edible, are produced species of swifts, or swiftlets, in the Malay Is. and Australia. In most of the mud nest building birds saliva is secreted to mix with the mud. In these swiftlets the secretory glands are so developed that the use of mud and other matter is abandoned, the nest being almost or entirely of the bird's own secretion. These nests are in great demand by the Chinese for making birds' nest soup. In the Malay Is. are large remote caves where the swifts have built for many centuries, and they are leased to collectors for large sums of money, and millions of nests are annually imported into China. The nests are taken as soon as they are made, and while still white and pure, those that contain foreign matter or those that are old and

yellow not being of any edible value. Nestvizh, or Nesvigh, a tn. of Russia, in the gov. of Minsk, on a trib. of the Niemen. Pop. 8500.

Nets are fabrics in which the threads cross each other at right angles, leaving a comparatively large open space between them; the threads are also knotted at the intersections. In this respect, netting differs essentially from weaving, where the intersecting threads simply cross each other. The open spaces in N. are called meshes, and these correspond in size with an interment week. instrument used in net-making, consisting of a flat piece of wood or other hard substance, usually about the shape and size of a common paperknife. In addition to this, a peculiar kind of needle is used, upon which a large quantity of the thread is placed, by winding it from end to end between the forked extremities. art of net-making has been practised from the earliest times by the most savage as well as the most civilised nations. It is easy to see that the human race could not help learning the value of this art from seeing how frequently land and water animals get entangled in the shrubs and weeds through which they attempt to pass; We have ample illustrations of the uses of N. in the bas-reliefs of Assyria, Greece, and Rome, and in the mural N. have been always made by hand. Hemp is the chief material for netmaking; and in order to prepare it, it is first passed in long rolls through a machine consisting of two rollers with blunt ridges, the upper of which is kept down on the material by means of a hanging weight, consisting of a loaded box suspended to a chain from the axle of the roller. After the fibre has passed through this, it is much more supple than before. It subse-

insects and spiders have developed quently passes through the carding. roving, and spinning processes, as in all other kinds of yarn, and is finally twisted into threads or twines of the required thickness. After the N. comes from the loom, it goes to the finishers, who, by hand, make the addition of a kind of selvage, consisting of several thicknesses of twine, to give strength to the edges. A great

give strength to the edges. A great variety of N. are in use amongst ishermen, but the principal are the setne, trawl, and drift nets.

Netherlands, see HOLLAND.

Nethersole, Sir Francis (1587-1659), secretary to the Electress Elizabeth, a native of Kent. He was secretary to the result of the secretary to the result of the secretary to the secretary the secretary to the secretary than th to James Hay, afterwards Earl of Carlisle, in 1619, and accompanied him on his visit to the Elector Palatine. On his return he was knighted, and became secretary to the Electress Palatine. In 1623-24 he was M.P. for Corfe Castle, being again elected in 1625 and 1628, but in 1633 suffered imprisonment for his zealous support of the electress, and on his release took no more part in public life. He wrote political pamphlets, and his despatches as secretary to the elec-tress are summarised in Mrs. Green's Life of the Princess Elizabeth.

Nethou, see Pyrneess Engageth.
Nethou, see Pyrneness.
Netley, a vil. in Hampshire, 3 m.
S.E. of Southampton. There are ruins of a Cistercian Abbey (Early English and Decorated) dating back to the early 13th century. Netley Hospital was opened in 1863 for investigate achieves. valided soldiers.

Netscher, Gaspar (1619-84), a German painter, born at Heidelberg. He took up painting as a profession and lived in the Hague under the patron-

age of William III.

Nettle, a name given to a number of annual and perennial herbs, characterised by stinging hairs on leaves and stems. The Great N. (Urtica dioica) is a perennial with small green flowers in long, branched clusters. The tender tops are sometimes boiled and eaten as a vegetable in spring. Its fibre yields a yarn, said to be superior to jute and hemp, though inferior to flax, and is valuable for damasks and brocades. A new process for extracting it has been introduced. The small N. (U. urens) is an annual, with flowers in a short, seldom branched cluster. U. pilulifera, a doubtful British native, found on the E. coast of England, is more virulent than the others

Nettlerash, or Urticaria, a disease of the skin characterised by the development of raised red or white wheals similar to those produced by the sting of a nettle, and accompanied by a burning and itching sensation which is aggravated by scratching.

The cause is some digestive disturbance, due to the ingestion of certain food, such as shell-fish, strawberries, cheese, etc. The best treatment is the administration of a purgative com-bined with an antacid, such as magnesia. The chronic form of the disease is not associated with any errors of diet, though it is worth while investigating whether the omission of an accustomed article of food is attended with any relief. Attacks occur periodically and the wheals persist for a longer time than in the acute form. Recurrences sometimes take place over a period of two or three years. The treatment should include the external application of a lead ointment to soothe the irritation, while antacids are recommended for internal administration.

Nettleship, Henry (1839-93), an English Latin scholar, born at Kettering. He helped Conington in his edition of Virgil, and eventually filled the eminent classicist's post as professor of Latin at Corpus (1878). Previously to this N. had been elected fellow of Amongst many valuable Lincoln. Lincoln. Amongst many variations contributions to the classics he collaborated with Dr. Sandys in bringing out a new edition of Soyfiert's Dictionary of Classical Antiquities, and wrote an article called 'The present relation between Classical Research and Classical Education in England.

Nettleship, John Trivett (1841-1902), an English animal painter and author, born in Kettering, famous for his painting, 'The Puma devouring a Peacock.' His best known books are Essays on R. Browning's Poetry and George Morland and the Evolution from him of some Later Painters.

Nettuno, a seaport of Italy, 32 m.

S.E. of Rome. Pop. 5500.

Netzchkau, a tn. of Saxony, Germany, 12 m. W.S.W. of Zwickau. It has iron foundries. Pop. 7565.

Neubrandenburg, a walled tn. of Germany, in the grand duchy of Mecklenburg and Strelliz, 74 m. N. of Berlin. It contains four handsome Gathic cates of 4th century work. Gothic gates of 14th-century work-manship. The grand-ducal palace of Belvedere stands on a hill overlooking Lake Tollense.

Neuburg, a tn. of Bavaria, on the Danube, 45 m. N. by W. of Munich.

Pop. 9056.

Neubydzow, a tn. of Austria, in the prov. of Bohemia, and 50 m. E.N.E. of Prague. Pop. 7541. Neuchatel, or Neufchatel, known

also as Neuenburg: 1. A canton in the Sweden, and was an ardent supporter W. of Switzerland, between Lake of the Jacobite cause. His chief fame Neuchatel and the French frontier. rests upon his assisting the Corsicans N. lies in the midst of the Jura Mts., against the Genoese, and ultimately

In the acute form they occur sud-denly in large or small numbers and N.E. to S.W. traverse the canton, usually disappear after a few hours. The greater number of the numerous streams which water the canton flow streams which water the canton flow into the Rhine. Among these mountain torrents the principal are the Reuse, the Seyon, and the Serriere. The Lake of Neuchâtel is 25 m. long, and from 3 to 5½ m. wide. Its level above the sea is 1420 ft., and it has a depth of 400 or 500 ft. The natural products are iron over seal esphelt. products are iron ores, coal, asphalt, fruit, including grapes—from which good red and white wines are made timber and corn. The rearing of cattle constitutes an important branch of industry, and large quantities of exported; cheese are but the speciality of the canton is watchmaking. Area 312 sq. m. Pop. 132,184. N. joined the Swiss Confederation in 1815. 2. The chief tn. of the canton, occupies a magnificent site on the N.W. shore of the Lake of Neuchâtel, 25 m. N.W. of Bern, and is noted for its many charitable institutions, and for the beauty of its charmingly situated environs. It is the seat of the watch-making industry Pop. 23,505. Neudamm, a tn. of Brandenburg,

Prussia, 11 m. from Küstrin. chief manufs. are cloth and hats... Pop. 7826.

Neudek, a tn. of Bohemia, Austria, 10 m. N.N.W. of Karlsbad. Pop. 6896. Neudorf, tn. of Silesia, Prussia, 5 m. W.S.W. of Königshütte. Pop. 8167.

Neudorf, sce IGLO. Neue Freie Presse Die (The New Frec Press) was founded in 1864 by Max Friedländer and Michael Etienne. Li is the chief paper of the German Liberal party in the Austrian empire, and is published dally in Vienna. Neuendorf, a vil. in the Rhine Pro-vince, Prussia, and lies 2 m. distant

from Koblenz.

Neuern, a com. of Bohemia, Austria, 10 m. from Karlsbad. Pop. 16.733. Neufahrwasser Harbour, sec DANZIG.

Neugersdorf, see GERSDORF.

Neuhaldsleben, a tn. of Prussia in Saxony, on the Ohre, 15 m. N.W. of Magdeburg. Manufs. include terracotta wares, gloves, beer, and malt. Pop. 10,774.

Neuhaus, a tn. of Bohemia, Austria, has a 13th-century castle. Pop. 10,119. Nouhausel, a tn. of Neutra co.. Hungary, 16 m. N. of Komorn. The Hungarian name is Ersekujyar. Pop.

13.500. Neuheiduk, a vil. of Silesia, Prussia.

Pop. 6316. Neuhoff, Theodor von (c. 1690-1756). a German adventurer. He entered the service of King Charles XII. of

ascending the throne as Theodor I. He was soon obliged to abdicate the throne, and was thrown on more than one occasion into prison for debt.

Neuhuys, Albert (b. 1844), a Dutch painter, born in Utrecht. His pictures are chiefly of genial home life, young mothers with children; his strength lies in his individuality. See Max Rooses, Dutch Painters of the 19th

Neuilly-Plaisance, a com. of Seineet-Oise dept., France, about 20 m. from Pontoise. There are limestone quarries and manufs. of pottery. Pop.

6400. Neuilly-sur-Seine, a suburb of Paris, between the fortifications and the Seine. The castle of St. James, dating back to 1775, has been converted into a lunatic asylum and the Galignani

Institution. Pop. 42,000.
Neu-Isenburg, a tn. of Hesse, Germany, 13 m. distant from Darmstadt.
Pop. 11,437.

Neukirch, Benjamin (1665-1729), German poet, born in Silesia. His publications include a poetical translation of Fénelon's Telemaque, some satires, and a book of Select Poems. His best productions are his satires and poetical epistles.

Neumarkt: 1. A tn. of Bavaria, 20 m. S.E. of Nuremberg. Pop. 6385. 2. A tn. of Galicia, Austria, 56 m. S.W. of Tarnov. Pop. 9185.

Neumecklenburg, an island of the Bismarck Archipelago in the Pacific Ocean. Area 4600 sq. m.

Neumünster, a tn. in the Prussian prov. of Schleswig-Holstein, 50 m. N. of Hamburg. Manufs. include cloth, cotton, carpets, leather, beer, and sweetmeats. It is an ancient city,

and was originally called Widendorp.
Neunkirchen: 1. A tn. of Rhenish
Prussia, on the R. Blies, and 12 m.
distant from Saarbrücken. Pop.
34,532. 2. A market tn. in Lower Austria, about 8 m. distant from Wiener - Neustadt. The principal trade is in woven goods and metals. Pop. 11,899.

Neuossegg, now Ossegg (q.v.).

Neupaka, a manufacturing tn. of Bohemia in Austria, and is 57 m. E.N.E. of Prague. Pop. 6843. Neu-Pommern (originally

New Britain), the largest island in the Bismarck Archipelago, in the Pacific Ocean, off the coast of Papua, and is separated from Neumecklenburg by St. George's Channel. It is of volcanic origin, and comprises an area of 9600 m. The Herbertshire Port overlooks Blanche Bay at the extreme N.E. of the island, and is the seat of adminis-N. was discovered by Dampier in 1699. The natives are Melanesians.

Neuquen, a ter. of Argentina, be-

tween the Colorado and Limay Rs., with an area of 42,350 sq. m. The surface on the whole is mountainous, and the principal river is the Neuquen.

Cap. Chosmalal. Pop. 28,000. Neuralgia (Gk. νεύρον, nerve; άλγος, pain), a pain along the course of a nerve not associated with any demonstrable change in structure. This definition is not always applicable, for the pain is often accom-panied by swelling, redness, etc.; but in the large majority of cases the cessation of the neuralgic pains leaves the patient as he was before the attack, with the exception of a degree of exhaustion. The pain is of a paroxysmalcharacter; itsonsetissudden. and its cessation no less so. It may even take on a periodic character, recurring at the same time of day for weeks, or recurring at fairly regular intervals of a few weeks. There is usually a fair degree of localisation; the patient feels the most intense pain at particular points, though it may often be felt diffused throughout the area served by a nerve.

It is often difficult to assign a cause

to a neuralgic attack. Generally speaking, hereditary influences, poor nutrition, fatigue, or worry are pre-Persons of gouty disposing causes. or anemic tendencies are apt to suffer from N. Occasionally it follows periods of excitement or overwork, and is often associated with the abuse of drugs, as alcohol and tobacco. It a regular accompaniment malaria, and cold, damp conditions

are favourable to its development. In some cases it can be seen to be due to the pressure of a tumour or of inflamed matter in the course of a nerve, and some of the most obstinate varieties are attributed to the pressure of bony structure upon the nerve as it passes through a foramen. The immediate cause of a paroxysm may be any sudden shock or jar, change of temperature, sudden movement, or any marked change in consciousness, such as the mere dread of a recurrence.

Neuralgic pains are usually classifled according to their anatomical situation. Tic douloureux is a distressing variety affecting the tri-geminal or facial nerve. The paroxysm is unusually sudden, and is The pain usually of short duration. is felt at the side of the head, and is seldom experienced on both sides at once. The skin may become red and swollen, and tender points can be located where the pain is extra-ordinarily intense; these are situated where the nerves emerge from the deeper-lying tissues. Supraorbital N. affects the brow. The pain is less intense in character than that of tic douloureux, but tends to remain for

which symptoms of a hysterical nature are observed. *Interestal* N. affects the nerves which emerge from the front of the spinal cord. difficulty of exactly localising it sometimes gives the impression that a pleuritic affection is the cause of the trouble. It is often associated with herpes zoster, or shingles. Sciatica is an obstinate form of N. affecting the great scintic nerve; it is most distinctly felt in the neighbourhood of the joints, and is usually caused by exposure to wet or cold, or to the over-long maintenance of a fixed position of the lower limbs.

The treatment of N. should aim at imin cause. elimin i Good plenty of res n from worry are indispensable. Of drugs, morphia, antipyrin, phenacetin, and aspirin are most satisfactory. Lotions and plasters of belladonna, aconite, laudanum, and chloroform are recommended as soothing applications. Operative measures are seldom called for, but success in obstinate cases has been achieved by

exposing the nerve and stretching it. Neurasthenia (Gk. νεύρον, nerve: ασθένεια, weakness), a term applied to a group of symptoms arising from weakness or exhaustion of the nerve The usual symptoms are centres. want of energy, predisposition to fatigue and disinclination for bodily activity, loss of memory, insomnia, pain in the back, disturbance of digestive functions, including constipation, and a sense of fulness after eating, disturbance of sexual functions, involving amenorrhon and dysmenorrhoa in women and impotence and spermatorrhoea in men, disturbance of the special senses, involving head - noises, blurring of vision, regional analgesia, etc. N. may be regional analgesia, etc. N. may be classified according to the predominant symptom or group of symptoms. Cerebral N. is characterised by mental symptoms; there is inability to con- and manufs. of machinery. centrate the attention, irritability, 18,714. centrate the attention, irritability, centrate the attention, irritability, 48,444. depression, etc., accompanied by headaches. In many cases there is prov. of Silesia, on the Oder, 18 m. development of morbid fears, such as claustrophobia, or fear of confined places, as railway tunnels, small Neu-Sandec, a tn. of Austrian rooms, etc., and batophobia, or fear of Galicia, on the Dunajec, 45 m. S.E. things falling, etc. In Neurashenia of Cracow. There are iron mines in cordis the heart expressions predaml, the vicinity. cordis the heart symptoms predominate; there is continual palpitation and occasional selzures resembling angina pectoris. In gastric neuras-thenia the digestive processes are disturbed, though digestion may pro- Josef Canal. The town is the seat of eeed at quite a normal rate. Some a Greek Orthodox bishop, and the secretions are apparently ill-regue literary and religious centre of the lated, though of normal constitution. Servians in Hungary. Pop. 31,950.

a longer period. It is often associated Constipation is a frequent concomivith the condition called migraine, in tant. Sexual neurasthenia is characterised by the predominance of the sexual disturbances mentioned above. It is usually accompanied by pain in the back, neuralgic pains generally, speedily-induced exhaustion, apprehension of oncoming impotence, etc. Most forms of N. are complicated, and the existence of exhaustion in the nervous centres is usually demonstrable. The essential part of any treatment is 'rest cure' amidst hygienic surroundings.

Neuritis, inflammation of a nerve. It may be localised or multiple. In localised N., caused by injury, cold, pressure, etc., there is considerable pain along the course of the nerve, and the part may become red and swollen. It usually submits to treatment in a short time. Multiple N, is the simultaneous inflammation of nerve trunks, often symmetrically situated on both sides of the body. The cause may be alcoholic poisoning; lead, arsenie, mercury, copper, or phosphorus poisoning; toxic effects of diphtheria, typhoid fever, malaria, influenza, etc.; gout or tuberculosis. Beri-beri is a form of multiple N. The symptoms vary according to the cause. There is numbress, loss of cause. power, and atrophy of muscle in certain parts, and ultimate paralysis. The only cure is elimination of the poison.

Neurode, a tn. of Prussia, in the prov. of Silesia, 45 m. S.S.W. of Breslau, with manufs. of cloth, carpets, and cottons. Pop. 7732.

Neuroma, a tumour springing from a nerve. If it is made up of nervous tissue, it is known as a true N; this variety is very rare. If it is made up of an overgrowth of fibrous connecting tissue, it is known as a false or pseudo-neuroma.

Neuroptera, see INSECTS.

Neuruppin, a tn. of Prussia in the . des. Pon.

of Cracow. There are from mines in the vicinity. Pop. 25,404. Neusatz (German, in Hungarian Ujvidek), a ta. of Hungary in the co. of Bacs-Bodrog, on the Danube, near the terminus of the Franz-Josef Canal. The town is the seat of

of Hungary, between the counties of Oedenburg and Wieselburg, 19 m. from Pressburg. It has an area of about 120 sq. m., but it is of varying size, and sometimes dries up in part. Eastward it is united with the exten-Hanság, sive marsh called the through which it is in communication with the R. Raab and with the Danube.

Neusohl (German, in Hungarian Beszterczebanya), a tn. with a Besterczeounyal, a th. with a magistracy, Hungary, cap. of the co. Sohl, 86 m. N. of Budapest. The chief occupations are mining and metal-working. It is a Catholic bishopric see. Pop. 10,000.

Neuss (the Roman Novaesium), a train the Phina prays of Perussia on

tn. in the Rhine prov. of Prussia, on the Rhine at the confluence of the Erft, about 31 m. from Düsseldorf. There are manufs. of iron ware, woollen stuffs, chemicals, paper, and bricks, and the town also produces

official meal. Pop. 37,300.

Neustadt: 1. A tn. in the prov. of W. Prussia, Prussia. 24 m. N.W. of Danzig. Pop. 9805. 2. A_seaport in the prov. of Schleswig-Holstein, Prussia, on the Baltic, 18 m. N.N. E. of Lübeck. Pop. 5082. 3. A tn. of Ger-many in the duchy of Saxe-Coburg-Gotha, about 9 m. N. E. of Coburg- Pop. 7986. 4. A tn. of Prussia in the prov. of Silesia, 33 m. from Ratibor. The chief industries are tanning, dyeing, and the manuf. of damask linen, woollen stuffs, leather, and beer. Pop. 20,300.

Neustadt (a tn., Lower Austria), see

WIENER-NEUSTADT.

Neustadt-an-der-Hardt, a tn. in the German kingdom of Bavaria, 17 m. S.W. of Mannheim. There is a good trade in wood, grain, fruit, and wine, all of which are produced in the vicinity. Its church, with several curious monuments of the counts palatine and with some ancient frescoes, was finished in the 14th century. Pop. 19,287.

Neustadt - an - der - Orla, a tn. of Germany in the grand duchy of Saxe-Weimar, 16 m. S. of Jena.

Pop. 7098.

Neustadt-an-der-Tafelfichte, a tn. of Bohemia, Austria, at the foot of Tafelfichte, the highest point in the

Sudetic Mts. Pop. 5657.

Neustadtel, a tn. of Saxony, Germany, 12 m. S.S.E. of Zwickau.

many, 12 Pop. 5137.

Neustadtl an der Waag, a tn. near the N.W. frontier of Hungary, 33 m. N.N.W. of Neutra. Here excellent red wine is grown, and there is a good trade in grain, wool, sheep-skins, and

Neustettin, a tn. of Pomerania, Germany, 55 m. S.E. of Kolberg. It merchandise belonging to the enemy

Neusiedler-See (Fertö-tava), a lake has a considerable trade in cattle and agricultural produce, as well as in timber and spirits, and the chief in-dustries are iron founding, dyeing, brewing, and the manuf. of soap,

matches, and machinery. Pop. 11,833. Neu Strelitz, a tn. and cap. of Mecklenburg-Strelitz, Germany, between Lakes Tierker and Glambecker. was founded in 1773, is built in the form of an eight-rayed star, and contains the ducal palace, with a library of over 70,000 volumes, and having magnificent gardens attached. chief products are corn, meal, and timber, and there are manufs, of ironware, pottery, beer, and mineral waters. Pop. 11,993.

Neustria, the name given to the western div. of the Frankish empire to distinguish it from the eastern

div., Austrasia.

Neutra, cap. of the co. of Neutra, 45 m. E.N.E. of Pressburg. Its chief product is wine. It possesses a fortress and an old cathedral. Pop.

15,000.

Neutrality (Lat. neuter, neither), the state of non-participation in a war in which two or more nations are engaged, and 'neutral' states are those who do not take any part in the contest and who remain the common friends of both parties without favouring either to the prejudice of the other. In no other branch of international law has there been more progress than in the extension and definition of the rights and duties of neutrals. The word itself is of recent origin, as in the olden times when states were at war, all other states concerned were considered as on one side or the other. Late in the 17th century, it was recognised that neutral states should give no assistance to belligerents, but such points as to what extent neutrals could prevent their territory being used for hostile purposes, etc., were by no means clearly understood. Generally speaking, as long as a neutral nation wishes to enjoy the rights and ad-vantages of N., she must exercise strict impartiality towards both belligerents. She must not furnish either of them with troops, arms, munitions of war, or anything in direct use in war time, and on the other hand, in matters which do not relate to war she must not refuse to one belligerent any advantage which The quesshe grants to the other. The question in regard to N, which has caused possibly more controversy than any other is that respecting neutral goods on belligerent vessels, and vice versa. It was at first held that the ownership of the goods on board the vessels was the only thing to be considered; thus.

was seized on a neutral ship, bu neutral merchandise seized under . hostile flag was restored. This syster led to so much inconvenience and irritation that the opposite principle was adopted, and neutral merchandise under a hostile flag was seized, and hostile merchandise was safe under a neutral flag. The Declaration of Paris (1856) laid down the principles that a neutral flag covered belligerent's goods, save contraband of war, and that neutral goods, save contraband of war, were not liable to confiscation when found under a hostile flag. By the decision of the arbitration board in the Alabama case, it was laid down that a neutral government is bound to use due diligence to prevent the fitting out in, or departure from, any of its ports of a vessel which it has reasonable ground to believe is intended to carry on war with a power with which it is was adopted, and neutral merchandise on war with a power with which it is at peace; that it is bound not to permit a belligerent to make use of its ports as a basis of naval operations, or a source of recruitment of men or military supplies; that it is bound to exercise due diligence in its own ports or waters, and as to all persons within its jurisdiction to prevent any within its jurisdiction to prevent any violation of these obligations. The Treaty of Washington in 1871 raised more questions than it solved, but the general effect was to extend the duties of neutral states. The present position as to N. is briefly as follows: It is the belligerents' duty to respect neutral territory and territorial waters. Neutral states have the right to repress the intercourse of neutral to repress the intercourse of neutral citizens with citizens of either belli-gerent, if desired. Belligerents have the right of blockade, of anjary (Lat. anjaria, forced service), of visit, and search, and of the confiscation of contraband of war. Neutrals must prevent any recruiting, etc., for either belligerent, and must grant im-partially any privileges, etc., which are not considered as intervention in are not considered as intervention in the struggle. Such are the main outlines, but the scope of the subject is so wide that it is impossible to condense it into a short article, as so many issues are involved in each particular point. It may be said that the trend of modern thought is to give neutrals more and more rights; such concentions as the neutralism. such conceptions as the neutralisa-tion of territory, the abolition of fetitious blockades, the detachment from the high sea of the 'territorial from the high sea of the 'territorial routhern boundary is formed for waters,' were not dreamt of a century about 150 m. by the Colorado, and ago. At the Conference of the Hague in 1807, dealing with N., two fairly 300 m. of the northern district, but exhaustive conventions were adopted, this and other smaller streams end and further modifications and progress may not unreasonably be example chiefly subsidiary to the grazing pected from the conference to be held of sheep and cattle, but the leading

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contraband of war, see Contrabant. Neutral Salts, see Salts. Neu-Ulm, a fort. tn. of Swabis, Bavaria, situated opposite Ulm in Wirtemberg, on the Danube. Pop. 12.390.

Neuville, Alphonse Marie de (1836-35), a French painter, pupil of Delacroix and Picot. He exhibited for the first time in the Salon of 1869 a large first time in the Salon of 1859 a large canvas depicting an episode in the siege of Sebastopol, which made a great sensation and got him a medal. This was followed by a series of military pictures dealing with the Crimean and Franco-Prussian wars. His most famous picture is 'The Last Cartridges.' He also collaborated with Detaille in the panorama of Rezonville, one of the best works of the kind. His painting is full of vigour and movement, and betrays marked

Rezonville, one of the best works of the kind. His painting is full of vigour and movement, and betrays marked individuality of temperament.

Neuwerk, a tn. of Rhenish Prussia, 14 m. W. of Düsseldorf. It manufs. textile fabries. Pop. 12,350.

Neuwied, a tn. of the Rhine Province, Prussia, on the Rhine, 8 m. N.N.W. of Koblenz. It possesses an ancient castle famous for its Roman antiquities, and is the seat of the Moravian schools, founded in the 17th century. Starch, tobucco, soap, chicory, and iron goods are manufactured. Pop. 19,107.

Neuzen, or Terneuzen, a scaport, Zealand, Netherlands, situated on an arm of the Scheldt, 28 m. W.N.W. of Antwerp. Pop. 9329.

Neva, a riv. of Russia, in the gov. of St. Petersburg, flows W. from the S.W. corner of Lake Ladoga to the Bay of Cronstadt, in the Gulf of Finland. Its length, including windlings, is about 40 m. Its current is very rapid. It is covered by drift-lee for upwards of five months in the year. An extensive traffic is carried on on its waters. An extensive traffic is carried on on its waters.

Nevada: I. One of the south-western states of the American Union in the great Cordilleran plateau, between the Rocky Mts, and the Sierra N. The surface is plateau with an elevation of 5000 ft., but in the S. it descends abruptly to the level of the Colorado R. (600 ft. above sea-level). The climate is very dry and the soil barren. The extreme southern boundary is formed for the state of the colorado and the soil barren.

silver and gold. Other minerals are Theatre. lead, sulphur, antimony, nickel and cobalt, borax and rock salt. The chief towns are Carson City, the capital, Virginia City, Reno (which has a state university), Eureka, and Gold Hill. Area 109,821 sq. m. Pop. the (1910) 81,875. 2. A city and co. seat of Vernon co., Missouri, U.S.A., 88 m. S. of Kansas City. The chief industries are the smelting of lead and zine, and the manuf. of paper, lumber, zmc, and the manur. of paper, immoer, sheet metal, and bricks. Coal is mined in the vicinity. Pop. (1910) 7176.
Nevel, a tn., Russia, in the gov. of Vitebsk, 63 m. N.N.W. of the city of Vitebsk. Pop. 10,000.
Nevers (ancient Noviodunum), the chief tn. of the dept. of Nièvre, France, on the r. b. of the Lofte at its.

France, on the r. b. of the Loire at its confluence with the Nièvre. It is the seat of a bishopric and of commerce, its trade consisting in iron and steel, wood, wine, grain, livestock, etc. There are manufs. of porcelain, agrichémical cultural implements, and iron glue, boilers manures, manures, giue, bouers na non goods, boots and shoes, and fur garments, and the town has also distilleries, tanneries, and dye-works. The cathedral of St. Cyr dates back to the 14th century. Pop. 27,000.

Neviansk, or Nevyanskii, a tn. of Russia in the gov. of Perm, on the Neiva R., 50 m. N.N.W. of Ekaterinburg. It is famous for its metallurgic riches and for its mint. Pop. 16,500

riches and for its mint. Pop. 16,500. Neville, see Warwick, Earl of. Neville, Henry (1620-94), an Eng-lish author, interested himself in politics. His activities displeased Cromwell, who banished him from London in 1654. He entered parliament on the death of the protector, and sat at Westminster for some years. He was, in 1663, arrested, and acquitted, on the grounds of complicity in the Yorkshire rising. His translation of Machiavelli's works (1675) is well known, and he was the author of many effective lampoons, including Shuffling, Culting, and Dealing in a Game of Picquel (1659), being directed against Oliver Cromwell and others.

Neville, Henry George (1837-1910), an English actor, born in Manchester. In 1861 he came to London, where he at once sprang into prominence. His first great success was as Bob Brierley in Tom Taylor's *The Ticket-of-leave Man* (Olympic, 1863), and this success was followed by others in Lady Clancarty and The Two Orphans. He played mainly romantic parts, for which his good looks and impassioned acting were eminently adapted. For several years he was the hero of the autumn dramas at Drury Lane. One and there is a large trade in of his last, and best, performances malt, cattle, wool, and coal.

occupation is mining, especially of was Sir Oliver at His Majesty's

Neville, Richard, first Earl of Salisbury (1400-60), was the son of Ralph N., first Earl of Westmorland. He acquired his title through his wife in acquired his title through his wife in 1429, laying claim to it on the death of his father-in-law. He was warden of the western marches, and as such persuaded York to lay down his arms in 1452, and when the latter got control of the government, during the king's madness, gave him his support and was made chancellor. He was defeated by the royalist forces at Ludford (1459) and fled to France, but returned in 1460 and remained in charge of London while Warwick charge of London while Warwick went to meet the Lancastrians at Northampton. He was captured after the battle of Wakefield, and murdered in Pontefract Castle.

Neville's Cross (Durham). DAVID II.

Nevin, a watering-place in Carnarvonshire, Wales, 6 m. Pwliheli. Pop. (1911) 1810.

Nevis, an island in the British West Indies, which lies in 17° 14' N. and 62° 33' W., and is separated from St. Kitts by a strait some 3 m. wide. It has an area of 50 sq. m., and the greatest elevation is 3596 ft. Sugar, Sugar, cotton, corn, yarns, coffee, and fruit are grown. The chief tn. is Charlestown. N. with St. Kitts and Anguilla were united in 1882 to form one presidency. Pop. 15,000.

Nevis, Ben, see BEN NEVIS.

New Age, a weekly review politics, literature, and art, published on Thursdays from 38 Cursitor Street, London, E.C., and edited by Mr. A. R. Orage. Caviare to the general, A. K. Orage. Caviare to the general, it is a paper for publicists, its Notes of the Week, written with Swiftian satire and directness, being perhaps the most penetrating criticism of current affairs. Its political philosophy is a blend of Marx and Nietzsche; has pioneered the idea of Child Societism (see Southern) and Guild Socialism (see Socialism), and having no advertisements criticises fearlessly and, at times, savagely. New Amsterdam: 1. A tn. of British

Guiana, on the Berbice, 63 m. S.E. of Georgetown. The tn. itself is traversed by canals. Pop. 9000. 2. The name given to New York City under the

Dutch.

Newark, a municipal and parl. bor. of England, in the co. of Nottingham, on a navigable branch of the R. Trent, 16 m. S.W. of Lincoln. The parish church, a large and elegant edifice, though often rebuilt, still shows traces of its original Norman char-There are many industries, acter. chiefly of an engineering character, and there is a large trade in corn,

castle of N., in which King John died in 1216, was built early in the 12th century. The ruins now form an attractive feature of a public pleasure

ground. Pop (1911) 16,142. Newark: 1. A city and the co. seat of Licking co., Ohio, U.S.A., 33 m. E. of Columbus. It is the trade centre of an agricultural region, and manufs. stoves and furnaces, bottles, glass, cigars, rope halters, machine furniture, and bentwood. Pop. (1910) 25,404. 2. A city of New Jersey, 25,404. 2. A city of New Jersey, U.S.A., co. seat of Essex co., on Newark Bay, about 8 m. W. of New York. There is a Roman Catholic cathedral, and the city is the see of a Roman Catholic and of a Protestant Episcopal bishop. The manuf. of shees and other leather products, especially patent leather, became an important industry early in the 19th century. Other manufs. are felt hats, carriages, chairs, jewellery, malt liquors, clothing, brass and iron work, machinery, chemicals, varnish, enamelled goods, corsets, cigars, buttons, and art

corsets, cigars, buttons, and art pottery. Pop. (1910) 347,469.
Newbattle, a vil. in the co. of Edinburgh, Scotland, I m. S. of Dalkeith. Newbattle Abbey was built by David I. in 1140. Pop. (1911) 6061.
New Bedford, a seaport city of Massachusetts, U.S.A., on Buzzard's Ray, 55 m. S. of Boston. It was once

Bay, 55 m. S. of Boston. It was once the centre of the American whale-fisheries. Oil refining, tanning, boot and shoe making are carried on, besides the manufacture of silk and woollen goods. It has oil and candle factories, soap factories, several large cotton-mills, hoop-iron manufactories. barrel factories, and an extensive trade in raw cotton, fish, coal, and lumber. Pop. (1910) 96,652.

Newbern, a city and co. seat of Craven co., N. Carolina, 85 m. N.E. of Wilmington. Its chief manufs, in-

clude lumber, turpentine, and cotton goods. Pop. (1910) 9961. Newbery, Francis (1743-1818), a publisher, was the son of John N., whose business he inherited in 1767. Subsequently the firm was Newbery & Harris, and in later years it was known as Griffiths & Farran. As a publisher he did not show the acumen

or industry of his father.

Newbery, John (1713-67), publisher and bookseller, born at Waitham St. Lawrence, Staffs. When seventeen years old he went to Reading and procured employment in the Mercury offices. In 1745 he opened a publishing house in St. Paul's Churchyard; here he started newspapers, and amongst his contributors were Johnson and Goldsmith. He had often meditated a library for young people—the venture was made, and it proved a great success. The well-known books.

Goody Two-Shoes, Tommy Trip and his Dog Growler, may be recalled, also the Lilyputian Magazine.

Newbolt, Henry John (b. 1862), a barrister and author, born at Bilston, Staffs.; educated at Clifton College, Bristol, and Corpus Christi College. Oxford. He became barrister at Lincoln's Inn, 1887, and practised there for two years. From 1900-4 he edited the Monthly Review. In 1892 his first book, Taken from the Enemy, was published, and in 1895, Mordred, a tragedy. But his fame rests chiefly with Admirals All, 1897; the poems in this attracted much attention. has also written Stories from Froissart:
The Island Race; The Sailing of the
Longships, Songs of the Sea; The Year
of Trajalgar; The Old Country; Songs
of the Fleet; The Twymans, etc.
Newbridge, a tn. in co. Kildare, Ireland, on the Liffey, 44 m. N.E. of Kildare. It is the site of lorge covalu-

It is the site of large cavalry

dare. It is the site of large cavalry barracks. Pop. (1911) 1560. New Brighton: 1. A bor. of Beaver co., Pennsylvania, U.S.A., 27 m. N.W. of Pittsburg. It is connected with Beaver Falls by means of a bridge. Its chief manufs. are flour, lumber, ottery, carriages, and machinery, pottery, carriages, and machinery. Pop. (1910) 8329. 2. A former tn. on Staten Is., but now a part of New York City. 3. A watering-place in the co. of Cheshire, England, 4 m. N.W. of Birkenhead. Pop. (1911) 11,000. New Britain, a city of Hartford co., Connecticut, U.S.A., 9 m. S.W. of Hartford. Its chief manufs, are hardware to the see founder and reaching.

Hartford. Its chief manufs, are hardware, tobacco, foundry and machine shops' goods, hosiery and knitted goods, and cutiery. Pop. (1910) 43,916. New Britain, see NEU-POMMERN. New Brunswick: I. An eastern prov. of the Dominion of Canada, is bounded on the N.W. by the Bay of Chaleur, on the N.E. by the Gulf of St. Lawrence and the Strait of Northumberland, on the S. by Nova Scotia and the Bay of Fundy. and on Scotia and the Bay of Fundy, and on the S.W. by the state of Maine. It has an area of 27,985 sq. m., and a pop. of 350,000. The coast-line is 500 m. in extent, and is indented by spacious bays, inlets, and harbours, which afford safe and commodious anchorafford safe and commodious anchorage for shipping. The chief are Fundy, Chignecto, and Cumberland bays, the two last being merely extensions of the first; Passamaquoddy Bay in the S.; Verte, Shediac, Cocaigne, Richibucto, and Miramichi bays on the N.E., and the Bay of Chaleur, 30 m. long by 27 m. broad, in the N.W. The province of N. B. abounds in rivers. The principal are the St. John's and the St. Croix, the former 450 m. and the latter 100 m. in length, and both falling into the Bay length, and both falling into the Bay of Fundy; and of the rivers that flow eastward into the Gulf of St. Law-

contains numerous lakes, one of which, contains numerous lakes, one of which, Grand Lake, is 100 sq. m. in area. The surface is for the most part flat or undulating. With the exception of the district in the N.W. bordering on Canada and the R. Restigouche, no portion of N. B. is marked by any considerable elevation. The shores on the E. coast, and for 20 m. inland, are flat. The soil is deep and fertile. N. B. contains a rich and extensive wheat-producing district. tensive wheat-producing district, the inhabitants dividing their time between farming, lumbering, fishing, shipbuilding, and other pursuits. The climate is remarkably healthy, and the autumn-and especially the season called the Indian summer—is particularly agreeable. Gold and silver occur in N. B.; copper and iron ore of excellent quality abound; gypsum, plumbago, and limestone are very abundant, and the freestone of the province, unsurpassed for beauty and durability, commands a high price in the States. Fredericton is the cap., but St. John is the largest town. Lumbering and the manufacture of wood-pulp are the leading in-dustries, but coal is mined, lobsters tinned, and woollen goods, machinery, sugar, and paper are also manufac-tured. Following the discovery of oil and natural gas, these have been produced in large quantities. The province of N. B., together with that of Nova Scotia, originally formed one French colony, called Acadia, or New France. It was ceded to the English in 1713, and was first settled by British colonists in 1764. Twenty years subsequently, in 1784, it was separated from Nova Scotia, and erected into an independent colony.

2. A city of New Jersey, U.S.A., lies on the S. bank of the Raritan R., at the hold of maintain 18 m. from its the head of navigation, 15 m. from its mouth and 30 m. S.W. of New York. It manufactures cotton, leather, and machinery. Pop. (1910) 23,388.

Newburgh: 1. A royal and municipal burgh and seaport in the co. of

Fifeshire, Scotland, on the Firth of Tay. Its chief manufs, are floorcloths and linen. It is also engaged in and linen. It is also engaged in salmon fishing. Pop. (1911) 1977. 2. A city in Orange co., New York, U.S.A., on the Hudson R., 60 m. N. of New York. Its chief manufs. are cotton and woollen goods, silk, paper, machinery, and flour. Pop. (1910)

27.805.

Newburn, a vil. in the co. of North-umberland, England, on the Tyne, 5½ m. N.W. of Newcastle. It is engaged in coal mining and iron founding. founding. Pop. (1911) 3017. Newbury, a municipal bor.

rence, the Richibucto, the Miramichi, the R. Kennet, 17 m. S.W. of Reading, and the Restigouche. The province Close by is the hamlet of Speen, built Close by is the hamlet of Speen, built on the site of the Roman Spinæ. chief industry is malting, and the town has a considerable woollen trade. During the Civil War in England, the neighbourhood of N. was the scene of two battles, neither of them being decisive. During the second of these battles, Donnington Castle resisted the Parliamentarians, being held by its governor Sir John Boys. Pop. (1911) 12,107.

Newburyport, a city, port of entry, and one of the co. seats of Essex co., Massachusetts, U.S.A., on the Merrimac R., 37 m. N.N.E. of Boston. The principal industries are the manuf. of boots, shoes, celluloid collars, cotton and woollen goods, and machinery, and also shipbuilding. The city has a safe harbour. Pop. (1910) 14,949.

New Caledonia, an island of the New Caledonia, an Island of the South Pacific Ocean, belonging to France, and lying about 720 m. E.N.E. of the coast of Queensland in Australia, in lat. 20°-22° 30′ S., long. 164°-167° E. It is about 200 m. in length, 30 m. in breadth. It is of volcation of the coast of the coa canic origin, is traversed in the direction of its length, from N.W. to S.E., by a range of mountains, which in some cases reach the height of about 8000 ft., and is surrounded by sand-banks and coral-reefs. There are secure harbours at Port Balade and Port St. Vincent, the former on the N.E., the latter on the S.W. part of the island. In the valleys the soil is fruitful, producing the cocoanut, banana, mango, breadfruit, etc. The sugar-cane is cultivated, and the vine grows wild. The coasts support considerable tracts of forest, but the mountains are barren. The inhabitants, who resemble the Papuan race. consist of different tribes. Its cap. is Noumea. N. C. was discovered by Captain Cook in 1774. In 1854 the Captain Cook in 1774. In 1854 the French took official possession of it and made it a convict station. Its area is 6450 sq. m., and it has a pop. of 50,000.

Newcastle: 1. A tn. of Natal, S. Africa, near the Drakenberg Mts., about 130 m. N.W. of Pietermaritz-burg. It produces coal and netro.

burg. It produces coal and petro-leum. Pop. (whites) 2500. 2. A tn., York co., W. Australia, 52 m. N.E. of Petth. Pop. 1000. 3. A city and port on the Hunter R., New South Wales, 73 m. N. of Syd-ney. It ships coal, wool, and frozen meat. Pop. 17,000. 4. A tn. of New Brunswick, on the Miramichi R., close to its mouth. Pop. 3000. 5. The cap. of Lawrence co., Pennsylvania, U.S.A., on the Shenango R., 50 m. It produces coal and petroburg. U.S.A., on the Shenango R., 50 m. N.W. of Pittsburg. The region in Newbury, a municipal bor. and which it is situated is rich in coal, iron, market tn. of Berkshire, England, on and other minerals, and the chief

yielding to

1855. He Colonies fr

manufs. are tin-plate, fire-brick, flour, steel wire, glass and iron goods. Its shipping trade is also extensive. Pop. (1910) 36,280. 6. The co. seat of Henry co., Indiana, U.S.A., 41 m. N.E. by E. of Indianapolis. The chief manufs. are iron goods, furniture, carriages, pianos, and brass goods. Pop. (1910) 9446. 7. A seaport tn. in co. Down, Ireland, on Dundrum Bay, 11 m. S.W. of Downpatrick. It is engaged in fishing. Pop. 1600. 8. A market tn. in co. Limerick, Ireland, 26 m. S.W. of Limerick. Pop. 2500.

Newcastle, Duke of, see Cavendish, WILLIAM. Newcastle, Henry Pelham Fiennes Pelham Clinton, fifth Duke of Newcastle (1811-64), entered parliament in 1832 as Lord Levedon, and was Lord of the Treasury under Peel (1834-35). When Peel returned to power, he again accepted office, and in 1846 became chief secretary to the Lord-Lieutenant of Ireland. In 1851 he succeeded to the dukedom. In the following year he went to the Colonial Office under Aberdeen, and when the Russian war broke out, and the War Department was detached from the Colonies, he took the Seals. He worked strenuously to organise it, but it was impossible to make it adequate to the demands upon it in a short time, and,

Newcastle, Thomas Pelham Holles, first Duke of (1693-1768), eldest son of the first Baron Pelham; assumed the name of Holles in 1711, on succeeding to the estates of his uncle. John Holles, Duke of Newcastle. He wasin 1715 created Duke of Newcastle. He was appointed Lord Chamberlain in 1717, and Secretary of State for the Southern Department in 1724. Thirty years later he succeeded Pelham as Prime Minister, and in 1757 formed a coalition with Pitt, but resigned as Bute came into prominence. He was Lord Privy Seal in Rockingham's first administration (1765-66).

The, Newcastle Chronicle, established in 1764, and was the third newspaper to be published in Newcastle. It was a weekly publication, the first issue appearing on Mar. 24, 1764. In 1858 it became a daily paper and also the property of Learnh Covern Joseph Cowen, an ardent Liberal, who continued to own it until his death in 1900.

Mond (Jesus Mound). There are some cipal co., and parl. bor. of Northumberland, 272 m. N.W. of London. on the l. b. of the Tyne, 8 m. from the l. b. of the Tyne, 8 m. from the in Durham, on the opposite bank of the Tyne, by three fine bridges The tyne, by three fine bridges The city has an interesting history (see and Heaton Parks, the Town Moor

John Brand's History and Antiquities, 1789), and slight remains antiquity may still be seen. Roman station was by the Pons Ælii, which is said to have crossed the river on the site of the present hydraulic swing bridge. There are traces of the old walls, which according to Leland far surpassed for strength and munificence all the walls of the cities of England. Before the Conquest the city was known as Monkchester. It owes its present name to the Norman castle built by Henry II. about 1080 on the site of an older Roman fortress. It belongs to the corporation which has placed it under the charge of the Newcastle Society of Antiquaries. As a port and coaling centre Newcastle came into prominence towards the end of the 15th century, though coal was dug up in the reign of Edward III. According to a charter of the reign of Elizabeth, forty-eight persons were appointed to load coal here, and in the year 1699, 200,000 chaldrons were exported. Its commercial prosperity is due to its position on a tidal river, and to the large quantity of excellent coal found in the neighbourhood. The principal docks are the Northumberland, the Albert Edward, and the Tyne. The quay, which is fitted with all mechanical appliances and com-municates with the North-Eastern Railway, forms a fine thoroughfare, a mile in length. The banks on both sides of the Tyne are lined with quays. factories, warehouses, and shipbuilding yards. The chief exports, apart from coal, are iron and steel goods, machinery, chemicals, and copper. In 1910 the exports were valued at £11,308,177, and the imports at £9,442,944. Newcastle is the see of a bishop, and returns two members to parliament. The local government is in the hands of the lord mayor, 19 aldermen, and 57 councillors. The most notable of its public buildings are: the cathedral, in the Decorated and P (12th cathe town and t

There are colleges of medicine and science, belonging to the Durham University, the Rutherford College and Commercial Institute, and the Royal Free Grammar School (1525). The chief residential suburb is Jesmond (Jesus Mount). There are some

and Castle Leazes. Among the societies founded in Newcastle are the Tyneside Naturalists' Club (1846), the North of England Institute of Mining Engineers (1852), the Newcastle Society of Antiquaries, and the Fine Arts Society Pop. (1911) 266,671.

Newcastle-under-Lyme, a markettn. and parl. and municipal bor. of
Staffordshire, England, on the Lyme
brook, 2 m. W. of Stoke-on-Trent.
The parish church of St. Giles has a
square tower of red sandstone dating
from the 12th century, the remainder
having been rebuilt between 1873-76;
the grammar school dates from 1602.
The town was formerly noted for its
manuf. of hats. Now the chief industries are brewing, malting, tanning, and the manuf. of army clothing, paper, cotton, etc. Pop. (1911)
20,204.

New-chwang, or Nui-chwang, a treaty port in S. Manchuria, China. The town proper stands on the Liao R., 40 m. from the coast, but the name is usually applied to the port. 30 m. nearer the coast of the Gulf of Lao-tung, which was originally called Muh-kow-ying. The Liao R. is here about ½ m. wide, but the port is ice-bound in winter. The surrounding country is flat and marshy. The chief industry is the manufacture of bean oil and bean cake, which form the chief exports, with raw beans, ginseng, and raw silk. There are gold, iron, and silver mines. Pop. 50,000.

New College, Oxford, founded by William of Wykeham in 1379 as the College of St. Mary of Winchester, the other title arising from the existence of St. Mary's College. The fine buildings still retain much of the founder's design, and are notable for

College of St. Mary of Winchester, the other title arising from the existence of St. Mary's College. The fine buildings still retain much of the founder's design, and are notable for the chapel containing the founder's pastoral staff, the cloisters (consecrated in 1400), and the massive detached tower. New buildings have been largely added. The lovely grounds contain portions of the old city wall.

Newcomb, Simon (1835-1909), an American astronomer, born in Nova Scotia. In 1859 he was appointed professor of mathematics to the U.S. navy, and later astronomer at the naval observatory, Washington, where he superintended the erection of the 26-in. equatorial telescope there. From 1871-74 he became appointed secretary to the U.S. Commission for observing the transit of Venus, and in 1882 observed the same at the Cape of Good Hope, then, from 1884-93, he was professor of mathematics and astronomy to Johns Hopkins University. He interested himself in the eclipses recorded by Ptolemy in the Almagest, also the Arabian and later astronomers to the

Among the Sewcastle are problems of gravitational astronomy. He wrote numerous books on as-Institute of tronomy and sociology. Consult his 2), the New-Reminiscences of an Astronomer, 1903.

Reminiscences of an Astronomer, 1903.

Newcome, William (1729-1800),
Archbishop of Armagh, was born at
Abingdon. In 1765 he became a
D.D., and the year following he went
to Ireland as chaplain to the LordLieutenant. He was soon promoted
to the see of Dromore, and in 1795 he
was made Primate of Ireland. Among
his works are Harmony of the Gospels
(1778), and an Improved Version of
the Twelve Minor Prophets (17851809).

Newcomen, Thomas (1663-1729), an inventor of the atmospheric steamengine, born at Dartmouth. In 1705, together with Savery and John Calley, he took out a patent for a fire-engine, notable for its safety and economy. The engine of James Watt improved upon this by having a separate condenser. In 1723 he set up an engine for drawing water at Griff, near Coventry.

New Cumnock, a tn. of Ayrshire, Scotland, 5 m. S.E. of Cumnock. It is the centre of a rich mining district.

Pop. (1911), 5661.

New Decatur, a city of Morgan co., Alabama, U.S.A., 1 m. S. of Decatur. It contains iron and wagon works, oil mills, cotton compresses, and spoke and handle factories. Pop. (1910) 6118.

New Dongola, Maraka, or El-Ordeh, a tn. of Egyptian Sudan, N.E. Africa, on the Nile. An important trading station. Pop. (estimated) 20,000. Newdigate, Sir Roger, fifth Baronet

Newdigate, Sir Roger, fifth Baronet (1719-1806), an antiquary, was a collector of ancient marbles, vases, and books. Two marble candelabra found in Hadrian's villa he purchased and presented to the Radcliffe Library, Oxford, and to that university, where he had been educated and which he represented in parliament for many years, he made other benefactions. He is, however, now principally remembered as the founder of the Newdigate prize for English verse at Oxford.

New England. a collective name applied to the states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut, in the N.E. of the U.S.A. Area 67,400 sq. m. The coasts were explored by Sir Humphrey Gilbert in 1583, and the district was explored in 1614 by Captain John Smith, who suggested the name.

Newent, a tn. of Gloucestershire, England, 9 m. N.W. of Gloucester. Manufactures linen and nails. Pop. (1911) of rural dist., 6965.

New Forest, the name of a dist. in

Hampshire (q.v.), triangular in shape, and bounded on the W. by the R. Avon, on the S. by the coast, and on the N.E. by a line running from the borders of Wiltshire along the Southampton Water Area about 145 sq. m. This triangle appears to have been a great wooded district from the earliest times, and its present name dates from the Norman Conquest, when it was regularly afforested. Since that period it has remained a possession of the crown. The principal trees in the forest are the oak and beech, with large patches of holly as underwood. The oaks have been much used as timber for the British racts of exquisite woodland scenery are everywhere to be met with. The afforestation of this district the Conqueror, enforced by savagely severe forest laws, was regarded as an act of the greatest cruelty, and the violent deaths met by both of his sons, Richard and William Rufus-both of whom were killed by accidental arrow-wounds in the forest-were looked upon as special judgments of Providence. special Judgments of Provincinc. A small breed of pony lives wild under its shelter. See J. R. Wise's The New Forest, its History and Scenery, 1883. Newfoundland, an island and British colony of N. America, lies in the Atlantic Ocean, at the mouth of the Gulf of St. Lawrence, separated from Labrador on the N. by the Straits of Belle Isle (about 12 m. broad), and extending in lat. from 46° 38′ to 51° 37′ N., and in long. from 52° 44' to 59° 30' w. In shape it resembles an equilateral triangle, of which Cape Bauld on the N., Cape Race on the S.E., and Cape Ray on the S.W. form the angles. It is 370 m. in length, 290 m. in breadth, about 1000 m. in circumference, and has an area of 42,734 sq. m. The island, as seen from the sea, presents a wild and sterile appearance. Its surface is diversified by mountains, marshes, barrens, ponds, and lakes. The mountains in the and lakes. The mountains in the Avalon Peninsula (stretching S.E. from the main portion of the island, and connected with it by an isthmus of only about 3 m. in width) rise, in some cases, to 1400 ft. above sealevel; while, both here and along the

the lakes is remarkable, and it has

been estimated, though, practice with some exaggeration, that about one-third of the whole surface is the water. The been estimated, though, perhaps,

covered with fresh water. The barrens occupy the tops of hills.

are Hare, White, Notre Dame, Bonavista, Trinity, Conception, St. Mary's, Placentia, Fortune, St. George's, and St. John's bays. The rivers, none of which are navigable for any distance. communicate between the lakes of the interior and the shore, and are narrow and winding; occasionally, however, they are turned to account in driving machinery. The main streams are the Exploit, with its affluent the Great Rattling, and the Humber. The soil is sterile and unproductive, although there is considerable cultivation along the sea-board of the settled districts. The chief exports consist of dried cod, cod oil, seal skins, seal oil, tinned lobsters, herring, copper and copper ore, and iron ore. The N. fisheries dispute which was settled at Week ore, and iron ore. The N. fisheries dispute, which was settled at Washington in 1909, was satisfactory to British claims. The government is administered by a government is administered by a governor, an executive council, and a legislative council, and a house of assembly. Pop. 237,531. Labrador (area 120,000 a.m.) the most easterly part of the sq. m.), the most easterly part of the American continent, is dependent on

N. Pop. 4096.
The early history of N. is involved in obscurity. It was discovered June 24, 1497, in the reign of Henry VII., by John Cabot. It was visited by the Portuguese navigator, Gaspar de Cortereal, in 1500; and within two years after that time, regular fisheries had been established on its shores by the Portuguese, Biscayans, and French. Sir Humphrey Gilbert, with his ill-fated expedition, arrived in St. John's Harbour, August 1583, and formally took possession of the island in the name of Queen Elizabeth. In the return voyage, the expedition was scattered by a storm, and the commander lost. The history of the island during the 17th and part of the 18th centuries is little more than a record of rivalries and feuds between the English and French fishermen; but by the Treaty of Utrecht (1713) the island was ceded wholly to England. The island of Anticosti has been included since 1809.

Newfoundland Dog. Few breeds of dogs are associated with so many accounts of canine instinct, devotion, and sagacity as the N. D., which was introduced — probably in the late eighteenth century — from British western shore, the height of 1000 ft. is frequently reached. The number of North America, where it had been accustomed to a very hard life on rough fare, and had long been bred for intelligence and taught to take to water without hesitation. It is in fact unrivalled as a water dog, and is much assisted by the oily nature of The coast-line is everywhere deeply indented with bays and estuaries affording safe harbours. Of these inlets, the principal, beginning from its dense, straight coat and by its partly webbed feet. Newfoundlands of the time when Sir Edwin Landscer the northern extremity of the island.

immortalised the breed by his painting, 'A Distinguished Member of the Humane Society, were of various colours. But there are now two established varieties, the black and the white and black. Other colours, such as bronze or red and white, are not favoured. In both varieties the head is broad and massive, with short and square muzzle, small ears and small, deep-set eyes without haws. The back is broad, neck strong and short, legs very strong, and the feet large and round. The chest is deep and broad, and the tail thick and long enough to reach just below the hock. The general appearance is that of a dog of great strength and activity for his build and size. The movement is free, and the loose swinging of the body between the legs, giving a slight roll to the gait, is characteristic. According to the Newfoundland Club's standard, the weight should be not less than 110 lbs. for a bitch and not more than 140 lbs. for a dog, while the average height is put at 25 and 27 in, respectively, but considerably larger animals are not uncommon. Newfoundland pupples need plenty of lean meat, both raw and cooked, as soon as they are able to take it, and they must have regular and frequent exercise.

Newgate Prison, a former prison in London, situated at the W. end of Newgate Street, opposite the Old Bailey. It was begun in the reign of Henry I., and is mentioned as a prison in 1207. In 1241 a sum of 20,000 marks was exacted from wealthy Jews of London to repair the struc-ture. In the 15th century funds for its religibilities were left by the right its rebuilding were left by the will of Sir Richard Whittington. It was destroyed in the great fire of 1666, but rebuilt about 1770. It suffered much rebuilt about 1770. It suffered much damage by fire during the No-Popery riots of 1780, when 300 prisoners were let loose. (See Barnaby Rudge.) Mrs. Fry began her labours for the improvement of the condition of prisoners there in 1808, and it ceased to be used as a debtors' prison in 1815 and as a place of incarceration in 1877. Executions took place within it after 1868. In 1904 it was demolished, and the site is now occupied by lished, and the site is now occupied by the Middlesex Session House. noted prisoners who have been confined in it include George Wilkes, Daniel Defoe, Jack Sheppard, Titus Oates, and William Penn.

the neighbourhood. Pop. 5000.

New Granada, see Colombia. New Guinea, or Papua, a large island (the next in size to Australia) in the Eastern Archipelago, lying N. of Australia, and separated from it by the Arafura Sea and Torres Straits (80 m. wide). Length (E. to W.) the Aratura Sea and Torres Stratts (80 m. wide). Length (E. to W.) about 1500 m.; breadth 30 to 430 m.; area about 250,000 sq. m. It is divided politically between Great Britain (S.E. and S.), Germany (N.E. and Holland (W.). The island is very irregular in shape, the coast being indented by numerous deep have such as Geolvini. Bay and the bays, such as Geelvink Bay and the Gulf of Papua. The coast is moun-tainous and rocky in the N. and S.E., but low and marshy in the S.W., and large numbers of small islands lie off The interior is still little known, but is very mountainous, rising in the Charles Louis Mts. to over 16,700 ft. Mt. Trafalgar is an active volcano. The chief rivers are the Baxter, Fly, Bamo, Philip, Turama, Aird, Aivel, Kaiserin Augusta, and Amberno, several of which are navigable. The climate is hot and humid in the lowlands, where fever is very prevalent, but comparatively healthy at an elevation of 3000 ft. The rainfall is very heavy, reaching 150 in. in parts. The vegetation is dense and luxurious, mainly resembling that of the Malay Archipelago, with some Australian types. Fruit and spices are also abundant. The animals are few, mainly marsupials, but birds are abundant. The mineral wealth is little explored, but some gold and plumbago have been found. natives, classed as Papuan negroes, have a considerable admixture of Malayan and Polynesian blood, and belong to the Melanesian division. They are usually medium or small in stature, with a narrow head and slight chin. Some of the inland tribes are very savage and addicted to cannibalism. Pottery, woodcarving, and rope-making are the main industries, and bêche de mer, copra, valuable woods, rubber, pearls, and agricultural products are exand agricultural products are capetic the way a Portuguese, De Abrea, in 1511, and named Papua by De Menesis in 1526 and New Guinea by De Orterz in 1546. The Dutch annexed some parts of the W. coast in the 18th century; in 1793 the East India Company formally annexed the island. In 1848 Holland annexed the country W. of New Georgia Archipelago (Pacific Ocean), see Solomon Islands. New Glasgow, at n. of Pictou co., Nova Scotia, Canada, on East R., 10 m. S.E. of the seaport of Pictou. Great Britain to proclaim a protectorate in the N.E. In 1883 and the action of Germany forced Great Britain to proclaim a protectorate in the N.E. In 1883 and the action of Germany forced Great Britain to proclaim a protectorate over the S.E. This was made industry. Coal mines are worked in a Crown Colony in 1888. In 1893 a boundary treaty was engluded in boundary treaty was concluded, in

accordance with which the British-Dutch boundary runs from the mouth of the Bensbach, N., to the Fly, and along it to 141° E. The British-German boundary runs from 5° S. in 141° E. to 6° S. in 144° E., thence to 161 C. The British-Forth, 2½ m. N. of Edinburgh. Pop. 141° E. to 6° S. in 144° E., thence to 162 C. The British-Forth, 2½ m. N. of Edinburgh. Pop. Dutch boundary runs from the mouth of the Bensbach, N., to the Fly, and along it to 141° E. The British-German boundary runs from 5° S. in 141° E., thence to 80° S. in 147° E., thence along 80° S. British N. G. has an area of 88,000 sq. m., and a population of about 400,000. Chief ports, Samarai and Port Moresby (cap.). Dutch N. G. has an area of 152,000 sq. m., and a population of over 600,000. Chief port. lation of over 600,000. Chief port, Doreh. German N. G., or Kaiser Wilhelm Land, has an area of 70,000 sq. m., and a population of 116,000. Chief ports, Astrolabe Bay, Friedrich Wilhelm Hafen, and Finsch Hafen. See C. G. Rawlings, The Land of the

New Guinea Pygmies (1913). New Hamburg, a vil. of Waterloo co., Ontario, Canada, on R. Nith, 75 m. W.S.W. of Toronto. Pop.

1500.

New Hampshire (the Granite State'), one of the New England states and one of the original thirteen states of U.S.A., lying W. of Maine and N. of Massachusetts, with 18 m. of coast. Area 9031 sq. m. The surface is largely mountainous, the chief range being the White Mts. in the N. (Mt. Washington 6293 ft.). There are numerous rivers, the chief being the Merrimac, Connecticut, and Androscoggin, which afford plentiful water-power, and many small lakes. Hay, potatoes, corn, fruit, and vegetables are grown, and forest trees are abundant. The climate is temperate, with long winters. The manufactures are numerous and important, and include boots and shoes, cotton goods, woollens and worsteds, hosiery There are some and leather goods. good granite quarries. cord (21,497). Prin Cap., Con-pal towns: cord (21,497). Principal towns: Manchester (70,063), Nashua (26,005), Dover (13,247). N. H. was settled by Englishmen in 1623, and made part of Massachusetts Bay in 1641, and a royal province in 1679. Pop. (1910) 430,572.

New Hanover, a magisterial dist. of Natal, S. Africa, 35 m. N.W. of Durban, and traversed by the Pietermato Greytown Railway. sq. m. Pop. 1600 whites, ritzburg Area 520 sq. m. 15,900 natives.

New Harmony, a tn. of Posey co., Indiana, U.S.A., on Wabash R. and Illinois Central Railway, 13 m. N. of Vernon. There are flow mills and

brick works. Pop. (1910) 1229. Newhaven, a seaport tn. of Sussex, England, on the English Channel at the mouth of the English Chamel at the mouth of the R. Ouse, 4 m. S.E. and several other ridges. The sta of Lewes. It is a bonding port and has regular cross-Channel communication with Dieppe. There is a fort by the Hudson, Passalc, Hackensac and a coastguard station, and the Raritan. Delaware, etc., rivs., and h

New Haven, co. seat of New Haven co., Conn., U.S.A., at the head of New Haven Bay, 4 m. from Long Island Sound. It has many handsome buildings, public squares, parks, and gardens. It is the seat of Yale University (q.v.). It is a commercial distributing centre, and has manufactures of carriages, rifles, clocks. hardware, and corsets. Pop. (1910) hardware, and corsets. Pop. (1910)

133,605.

New Hebrides, an archipelago of Polynesia in the Pacific Ocean, lying between 13° S., 166° E., and 20° S., 170° E., and extending over 500 m. The total area is about 5100 sq. m., and there are about a dozen larger islands and numerous smaller ones. The largest is Espiritu Santo (75 m. by 40 m.), discovered by Quiros in 1606. The islands are volcanic and 1606. free from coral reefs. The soil is rich and deep, and the surface is densely wooded, and produces bread fruit, sago-palm, bananas, sugar-cane, yam, taro, arrowroot, oranges, pineapples, and coffee. Animal life is scarce, but whaling is carried on in the surrounding seas. The rainfall is heavy, and the climate unhealthy for Europeans. The natives are Melanesians and Poly-There is steamboat comnesians. munication with Australia. Pop. about 50,000, including several hundred Europeans.

Newhills, a tn. of W. Aberdeenshire, Scotland, 4½ m. N.W. of Aberdeen. Pop. (1910) 6419.

New Holland: A small ferry 1. port on the Lincolnshire shore of the Humber, England. 2. A former name for Australia (q.v).

New Iberia, a tn. of Iberia par., Louisiana, U.S.A., 125 m. N. of New Orleans. It has manufs. of cypress, lumber, cotton-seed oil, soap, mineral waters, and building sundries. Pop. (1910) 7499.

New Ireland, an island of the Bismarck Archipelago, now called Neu-mecklenburg (q.v.). See also BISMARCK ARCHIPELAGO.

New Jersey, a N.E. state of U.S.A., in the N. Atlantic group. It was the third of the original thirteen states which ratified the Federal Constitution. Area 7514 sq. m. The N. of the state is hilly, being intersected by the Blue Mt. and Highland Range, belonging to the Appalachian system, and several other ridges. The state is a gently undulating plain, sloping towards the E. and W. It is watered by the Hudson, Passaic, Hackensack,

manganese, tale, soapstone, and graphite. Manufs are the chief industry, among them being textiles of all kinds, leather, foundry and machine-shop products, petroleum and brewing products, chemicals, and pottery. Cap., Trenton (96,315). Chief towns: Newark (347,469), Jersey City (267,779), Paterson (123,600). N. J. was discovered by John Cabot in 1497; it was claimed by the Dutch, but, passed into English and the Dutch, but passed into English hands in 1664. Pop. (1910) 2,537,167. New Jersey Tea, see REDROOT. New Jerusalem Church, see Sweden

BORG. New Kensington, a tn. of Westmorland co., Pennsylvania, U.S.A., on Allegheny R., 18 m. E. of Pittsburg. Pop. (1910) 7707.

New Lambton, a vil. of Kahibah co., New South Wales, 70 m. N.E. of Sydney, with coal mines. Pop. 1600. Newlands, a vil. of Cape of Good Hope, S. Africa, 4 m. S.E. of Cape Town, of which it forms a suburb together with Claremont.

(with C.) 15,000.

Newlands, John Alexander Rena (1838-98), an English chemist. After 1865 practised as an analytical and consulting chemist. His name is associated with the conception of the associated with the conception of the chemical elements—the Law of Octaves—later developed by Mendeleéff and Lothar Meyer. His papers on the subject were collected in *The Discovery of the Periodic Law*, 1884.

New London, a seaport city of New London co., Conn., U.S.A., at mouth of Thames R., 50 m. E. of New Haven. The harbour is good. There are manufs. of silk, woollens, and cotton; shipyards, foundries, sawmills, etc.

Pop. (1910) 19,659.

Newlyn, a scaport of St. Ives div., Cornwall, England, 1; m. S.W. of Penzance. It has a good harbour, and a fishing industry. Pop. (1911) 4500. Newmains, a tn. of Mid-Lanarkshire, Scotland, 2 m. N.E. of Wishaw.

Near it are the Coltness Ironworks, and coal is mined. Pop. (1911) 2800. Newman, Francis William (1805-97),

younger brother of Cardinal N., ! in London. In 1826 he becan fellow of Balliol, but resigned in

through conscientions scruples, travelled in the East, joining a leading Tractarian. It was his study Baptist Mission at Bagdad. He re- of the early fathers, of Athanasius, turned to England in 1833, and was Origen, and Clement, and of the

numerous small lakes. Off the coast classical tutor at Bristol College, is a line of sandbars, enclosing lagoons and marshes. The land is well wooded and fertile. Cereals, professor of Latin at University College, London, 1846-63. He then devoted himself entirely to literature. His divergence from the Church of England in the direction of theism and free thought forms a curious contrast to the religious development of his brother. His works include: Catholic Union, 1844; History of the Hebrew Monarchy, 1847; The Soul, her Sorrows and Aspirations, 1849; Phases of Faith, or Passages from the History of my Creed, 1850; The Odes of Horace translated into Unrhymed English Metres, 1853; The Iliad, etc. Newman, John Henry (1801-90), an English cardinal, was the eldest child of John N., a banker. In 1816 he entered Trinity College, Oxford; two years later he gained a scholarship, and in 1820 he took his B.A. degree, having failed to obtain any high academic distinction. In 1822 he was awarded a fellowship at Oriel, the acknowledged centre of Oxford intellectualism, and in the following year the same honour fell to Pusey. In 1826, when N. obtained a tutor-ship, Richard Froude became fellow. Having assisted Hawkins to the provostship of Oriel, N. was appointed to the vicarage of St. Mary's, Oxford, which Hawkins had just vacated. After resigning their fellowships because Hawkins failed to recognise 'the substantially religious nature' of their office, N. and Fronde went abroad to the Mediterranean and to aurora to the Mediterranean and to Rome, where they composed many of the short poems afterwards collected in the Lyra Apostolica (1834). It was during this tour, whilst he lay becamed in the straits of Bonifacio, that N. wrote the beautiful hymn, LeadKindly Light. The Oxford Movement dates from N.'s return home. In July 1833, he resolved with France In July 1833, he resolved with Froude and a few other friends and thinkers to uphold the integrity of the Prayer Book, and to defend the doctrine of apostolic succession. In September of the same year he began his Tracts for the Times, and at the same moment that he was publishing these he was expounding the doctrines therein expressed from the pulpit of St. Mary's. A chief source, if not the mainspring, of that torrent of religious feeling which passed away from Oxford to all parts of the kingdom an English scholar and man of letters, must be looked for in the intense ragnetic he eager dialec-

filled his mind with doubts as to the justice of Anglicanism. In 1841 he raised a storm of indignation against himself by his 'Tract 90,' in which he argued that the Articles do not disthe same time recanted all his earlier adverse criticism of the Romish Having entered the priest-Church. hood, he founded the oratories at (1847) and London Birmingham (1850). In 1852 he was fined £100 for libelling an apostate monk, Achilli, notwithstanding he had amply de-monstrated the truth of his accusations. His splendid and wonderfully dignified Apologia pro Vita Sua was a reply to the grave and gratuitous slander which Charles Kingsley set down against him in Macmillan's Magazine (1864). In it the author traces his mental development with a frankness which must have been repellent to so sensitive a nature, but which must for ever silence any who are inclined to question the transparent purity of his motives or the singleness of his aims. From this 'Apology' it is clear that N. was from

the first actuated by his conception of an infallible church, and that a longing to attain, or at least approach to, this ideal alone induced him to transfer his allegiance to the Roman Church, which seemed the one 'divine kingdom' on this earth. The three years of fasting, prayer, and meditation which he passed in comparative seclusion at Littlemore (1842-45) are a sufficient indication of the grave and earnest spirit in which he took this step. In 1879 he was created cardinal at Rome, a dignity which Pope Leo XIII. conferred on him largely at the instance of Manning. N. died at Edgbaston in 1890. See Lives by Meynell (1890), R. H. Hulton (1891), Letlers and Correspondence, 1891; Charles Sarolea, Newman's Theology,

1908. Newmarket, a market tn. of England, famous for its horse races, is situated in a valley 13 m. E.N.E. of Cambridge, and is partly in the county of that name and partly in Suffolk. It contains many well-built and elegant houses, the residences in many cases of gentlemen who are drawn hither from their interest in the Turf. The market-house and the famous Jockey Club are the chief Malt-making and brewing are carried on to some extent; but

Monophysite controversy that first is said to be one of the finest in the world. Pop. (1911) 10,483.

Newmarket Stakes, see RACE MEET-

INGS. New Mexico, a state in the W. of the U.S.A., organised in 1850, ad-mitted to statehood in 1911. Area avow Catholicism. He retired to mitted to statehood in 1911. Area Littlemore in 1842, renounced the 122,634 sq. m. It forms part of a living of St. Mary's in 1843, and at rocky tableland, the foundation of the Rocky Mts. and the Sierra Madre ranges. In the E. is the Llano Estacado, a barren plain, which rises to mountain ranges in the centre of the state, the W. being mainly plateaux. It is watered by the Rio Grande and its affluent, the Rio Pecos, the Canadian R., and the tributaries of the 'clorado R. Much of the land is fertile under irrigation, and cereals, fruit, vegetables, and cotton are grown, while pasture is abundant, and there is much good forest land. The mineral wealth includes gold, silver, copper, lead, zinc, coal, granite, limestone, sandstone, and marble. The main industries are car-construction, lumber and timber work, and flour milling. Cap., Santa Fé (5072). Chief towns: Albuquerque (11,020) and Roswell (6172). Pop. (1910) 327,301.

New Milford, a tn. and the co. seat of Litchfield co., Connecticut, U.S.A., 30 m. N.W. of New Haven. It manufs.

hats, pottery, furniture, and lime. Pop. (1910) 5010.

New Mill, a tn. in the W. Riding of Yorkshire. England, situated near to Kirkburton. Pop. (1911) 4569.

New Mills, a tn. of Derbyshire. England, on R. Guyt, 6 m. S.W. of Glossop. Has cotton and calico manufs. and coal mines. Pop. (1911) 8999.

Newmilns and Greenholm, a tn. and police bor. of Ayrshire, Scotland,

and police bor. of Ayrshire, Scotland, on the Irvine, with manufs. of laces and muslins. Pop. (1911) 4806.

New Model, the name given to the army organised by parliament on Feb. 15, 1645. It was formed on the plan of Cromwell's Ironsides, and was under the command of Sir Thomas Fairfax, while Cromwell beld the position of lieutenant. held the position of lieutenant-general. It was successful in deciding the issue of the battle of Naseby.

Newnes, Sir George (1851-1910), a magazine and newspaper publisher, a native of Matlock, Derbyshire. He ensured his first success in the publishing world by his production of Tit-Bits in 1881, which eventually led to his opening the present offices in Burleigh Street and Southampton Street, Strand. In 1885 he became Street, Strand. a member of parliament, sitting on the Liberal bench for Newmarket until 1895. In the latter year he was race meetings held here seven times annually. The race-course of N., owned partly by the Jockey Club, became M.P. for Swansca. Among and partly by the Duke of Rutland, other magazines and papers which

he founded or edited are: The Strand, shire, Scotland, 11 m. S.W. of Fraser-Magazine; The Ladies' Field; The burgh. In the vicinity are large Wide World Magazine; Country Life; granite quarries. Pop. (1911) 2200. and C. B. Fry's Magazine.

Newnham College, for the higher education of women, at Cambridge, was organised in 1873 and opened in 1875. Five women students came to study at Cambridge in 1871, twenty-five in 1874, and 220 in 1912. The college was incorporated in 1880, and since 1881, with a few reservations, the students have enjoyed all the scholastic privileges offered by the University of Cambridge: their names appear in the tripos or honours lists of the University, but they are not allowed to hold degrees. The buildings include North Hall (1880), Clough Hall (1888), Pfeiffer Build-ing (1893), and Peile Hall (1910). There are fifteen resident lecturers. The fees are about £35 a term for board, lodging, and instruction.

New Norfolk, a tn. of Buckingham ., Tasmania, 21 m. N.W. of Hobart, co., Tasmania, 21 m. N.W. of Ho on the R. Derwent. Pop. 1200.

New Orleans, chief city and sea-port of Louisiana, U.S.A., on the Mississippi R., chiefly on the l. b. The largest municipal limits are coextensive with those of the parish of Orleans, and among the suburbs are Westwego, Gretna, McDonoghville, and Algiers, its western district, with a river frontage of 3 m. The site on which the city is built is almost perfectly level. The climate is not marked by extremes of either heat or cold. The French or Latin quarter of N. O. is separated from the American quarter, or New City, by Canal Street, the centre of the retail trade, and just below this street are many of the most important buildings of the city. The Custom House, built of granite, is one of the largest and most important edifices in the U.S. Then there are the Cotton Ex-U.S. Then there are the Cotton Exchange, City Hall, Criminal Courts, Howard Memorial Library, the new post office, and several handsome churches and other buildings. The French quarter of N. O. is that part closely connected with the history, poetry, and romance of the city, and the influence of the French and Spanish regime still survives in the Spanish régime still survives in the mode of life, customs, holidays, and social observances. The most imsocial observances. portant industries are sugar-refining, rice-cleaning, and the manuf. of cotton-seed goods, cigai etc. Pop. 90,000 negroes.

New Philadelphia, a city and the cap. of Tuscarawas co., Ohio, U.S.A. Manufs. include iron and woollen goods. Pop. (1910) 8542.

shire, Scotland, 11 m. s.w. of Fraser-burgh. In the vicinity are large granite quarries. Pop. (1911) 2200. New Plymouth, the cap. and a port of the dist. of Taranaki, North Is., New Zealand, 160 m. S.W. of Auckland. It has an extensive harbour. Pop. 5200. New Pomerania, see NEU-POMMERN.

Newport: 1. A parl and municipal bor., market tn., and river-port of England, chief town of the Isle of Wight, and situated near the centre of that island, on the Medina, which is navigable up to this point. Thomas's Church, founded in 1854, on the site of an ancient structure built in the reign of Henry III., is a handsome edifice, and contains a monument erected by Queen Victoria in memory of the Princess Elizabeth. daughter of Charles I., who died at Carisbrooke Castle, September 8, Carisbrooke Castle, September 8, 1650. About a mile north of N. is Carisbrooke Castle, where the king was confined under the guardianship of Colonel Hammond for twelve months (1647-48). There are several important institutions in the vicinity. as the Albany Barracks, the House of Industry, and the Parkhurst Prison for juvenile convicts. Manufs. of lace are carried on to some extent. Vessels of considerable tonnage can ascend to the quay at high tides. Pop. (1911) 11,154. 2. A municipal and co. bor. of Monmouthshire, England, is seated on the Usk, 19 m. S.S.W. of Monmouth. It was formerly a walled tn., defended by a castle, the ruins of which still stand. The inhabitants are engaged in shipbuilding, the manuf. agricultural implements, founding, and the shipping of coal. The ancient church of St. Woollos dates from Saxon times. There is extensive dockage and wharfage, and the tn. combines with Usk to send one member to the House of Com-The total trade exceeds mons. £6,000,000. Pop. (1911) 83,700. 3. A seaport of Fifeshire, Scotland, on the Firth of Tay, opposite Dundee. Pop. (1911) 3643. 4. A city and the cap. of Newport co., Rhode Is., U.S.A. It on Newport co., Knode Is., U.S.A. It is a very fashionable summer resort, and has also a good harbour. Close by is situated the U.S. torpedo station. Pop. (1910) 27,149. 5. A city and the cap. of Campbell co., Kentucky, U.S.A., on the Ohio R., opposite Cincinnati. There are flour control of the cap. of cap. mills and iron foundries, and manufs. of machinery and spirits. Pop. (1910) 30,309.

Newport News, a city and port of Warwick co., Virginia, U.S.A., on the James R. Its harborn is excellent, and that, together with its shipping facilities of the contract of t facilities, gives it an important posi-tion in the commercial world. It has New Pitsligo, a tn. of Aberdeen shipbuilding yards, iron works, coal

wharves, lumber mills, and dry docks. Pop. (1910) 20.500.

New Providence, see BAHAMAS.

Newquay, a tn. and watering-place on the N. coast of Cornwall, England, about 11 m. N. of Truro. It has good pilchard fisheries. Pop. (1911) 4415.

New Red Sandstone, see TRIASSIC. New Richmond, a seaport of Bonaventure co., Quebec, Canada, on the Bay of Chaleur, 60 m. E. of Quebec.

Pop. 2000.

New River, an English artificial cut or channel, now about 27 m. long, stretching S. from Chadwell and stretching S. from Chadwell and Amwell Springs, Hertfordshire, just S.W. of Ware, augmented from the Lee (Lea) at Broxbourne, and conveying these waters into reservoirs at Hornsey and Stoke Newington (N. London), the latter having a capacity for holding 92,000,000 gallons. It affords a great part of the London water supply. Bergin P. the London water supply. Begun by Sir H. Myddleton (d. 1631) in James L's reign (1609), it was completed by L's reign (1909), it was completed by a corporation in Hertfordshire and Middlesex (1620). The New River Head reservoir at Clerkenwell was opened in 1613. The property was originally divided into about seventytwo shares (of £100 each), thirty-six being 'adventurers' shares,' held by Myddleton and twenty-eight others, and the remainder granted to the king. Charles I. exchanged (1631) for an annuity of £500. Charles I. exchanged them adventurers' shares have in recent times been valued at over £100,000 each (one sold for £125,500 in 1897). The Metropolitan Water Board The Metropolitan Water Board took over this company and seven other London water companies in 1904, at a valuation of over£6,500,000. King George opened a new reservoir at Chingford in March 1913 in con-nection with the N. R. New River (U.S.A.), see GREAT

KANAWHA.

KANAWHA.

New Rochelle, a tn. of Westchester Co., New York. U.S.A., on Long Island Sound, 18 m. N.N.E. of New York. The Knickerbocker Press is established there; druggists' scales and balances and speedometers are manufactured. Pop. (1910) 28,867.

New Romney, see Romney, New. New Ross: 1. A tn. of Wexford and Kilkenny counties, Ireland, on the Barrow, 2 m. below the confluence of the Nore, 13 m. from Waterford. The Irish insurgents were de-

The Irish insurgents were de-Johnston and Mountjoy (1798). Pop. (1911) 5800. 2. A post vil. of Lunenburg co., Nova Scotia, 45 m. W. of Hulifax. Pop. 1300.

Newry, a scaport of Down and Armagh counties, Ireland, one of the dividuals scaled the formidable barchief ports of Ulster, on Newry rier, and discovered those downs on Water, near Carlingford Lough, 33 m. the western slope which now form the

S.S.W. of Belfast. There are corn, flour, and spinning mills, tanneries, and breweries, with granite quarries

near by. Pop. (1911) 11,956.

New Shoreham, see Shoreham, NEW.

New Siberia Islands, Novaya Sibir, or Liakhov Islands, a group of islands in the Arctic Ocean, N. of E. Siberia, Yakutsk gov., and N.E. of the Lena Delta. They include Kotelnoi, Fadievskoi, New Siberia, Liakhov (Lyakhov), Thaddeus, and smaller lights. They grantly the prostly minhabited They are mostly uninhabited, except temporarily by hunters. Furexcept temporary, bearing animals abound. Bones of the mammoth and other extinct have been found. Linkhoff discovered the islands (1770).

New South Shetlands, a group of islands in the Antarctic Ocean, see

South Shetlands.

New South Wales, a state of the Commonwealth of Australia, in the S.E. portion of the island continent. It is the oldest of the various states, and extends between lat. 28° 10' and 37° 28' S., and 141° and 154° E., with an area of 310,367 sq. m. and a coastine of over 700 m. It is divided into 141 counties. Within the colony of N. S. W. the mountain range, which girdles nearly the whole island, is most continuous and elevated, and is known as the Dividing Range. section of this mountain system on the southern boundary of the colony, called the Australian Alps, rises in Mt. Kosciusko to 6500 ft. From this the range extends northward. watershed being from 50 to 150 m. distant from the E. coast, and thus divides the colony into two slopes, with two distinct water-systems. The rivers on the eastern side descend with great rapidity, and in oblique tortuous courses, their channels often forming deep rayings. Many of them are navigable in their lower course for are navigable in their lower course for sea-going steamers. The principal are the Richmond, Clarence, M'Leay, Manning, Hunter, Hawkesbury, and Shoalhaven. The Hunter R., about 60 m. N. of Sydney, opens up one of the most fertile and delightful districts in the Range, which called the Bh

abrupt and rugged, and tun of frightful chasms, long presented an im-penetrable barrier to the W., and kept the colonists shut in between it and the sea, and utterly ignorant of what lay beyond. At last, in 1813, when the cattle were likely to perish in one of those long droughts that appear to visit this country at intervals of a dozen years, three adventurous ingreat sheep-ranges of Australia. A practicable line of road was immediately constructed by convict labour, and the tide of occupation entered on the new and limitless expanse. numerous streams that rise on the W. side of the watershed within colony all converge and empty their waters into the sea through one channel within the colony of S. Australia. The southern and main branch of this great river-system is the Murray. The other great trunks of the system are the Murrumbidgee, which is navigable; the Lachlan, at times reduced to a string of ponds; and the Darling. The Macquarie, passing through the rich district of Bathurst (q.v.), is a large tributary of the Darling, but it reaches it only in the rainy seasons. Numerous good harbours are formed by the estuaries of the rivers. Owing to the great extent of the colony, stretching as it does over eleven de-grees of latitude, the climate is very various. In the northern districts, which are the warmest, the climate is tropical, the summer heat occasionally rising in inland districts to 120°, while the high tablelands weeks of severe frost are sometimes experi-enced. At Sydney the mean tem-perature of the year is about 65°. The mean heat of summer, which lasts here from the beginning of December to the 1st of February, is about 80° but is much modified on the coast by the refreshing sea breeze. The annual fall of rain is about 50 in. Rain sometimes descends in continuous torrents. and causes the rivers to rise to an extraordinary height. N. S. W. is in the main an agricultural country, and much attention is devoted to stockraising. The principal crops are wheat, maize, barley, oats, potatoes, lucerne, and tobacco, and fruit culture has greatly developed in recent years—oranges, lemons, and mandarins predominating. Enormous areas are utilised for grazing purposes, and the state is rich in mineral de-posits. The chief exports are gold, posits. The chief exports are gold, silver, copper, lead, tin, coal, wool, butter, wheat, flour, timber, meat (frozen and preserved), hides and skins, tallow, leather, and cocoanut oil, which reached the amount of £32,144,000 in 1911, while the imports were over £27,000,000. The manufactures of the state are varied and numerous Explosion in the certific and numerous. Sydney is the capital, but other important towns are Newcastle, Bathurst, Goulburn, Parramatta, Broken Hill, Maitland, and Albury. Sydney is the headquarters of the squadron in Australian waters, and is the seat of a university. Edu-

owned. N. S. W. took its origin in a penal establishment formed by the in, British government in 1788 at Port Jackson, near Botany Bay (lat. 34°). The prisoners, after their period of servitude, or on being pardoned, became settlers, and obtained grants of land; and these 'emancipists' and their descendants, together with free e. emigrants, constitute the present inhabitants. Transportation to N. S. We ceased in 1840, and up to that date the total number of convicts sent thither amounted to 60,700, of whom only 8700 were women. They were settlers, who were obliged to furnish them with a fixed allowance of clothing and food. In 1843 a practically selective Legislative Council was established, and twelve years later responsible government was granted. The executive is in the hands of a governor, appointed by the imperial government, assisted by a cabinet. The constitution is embodied in the Consolidating Act of 1902. The estimated pop. in 1911 was 1,660,100.

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New South Wales Government
Railway. Under this title in 1855 the
government of New South Wales,
Australia, took over the Sydney
Tramway and Railway (1851, the
first railway of the state) and the
Hunter River Railway (running from
Newcastle to Maitland). A line was
opened (1856) from Sydney to Parramatta. The present system includes
the Southern line and branches (from
Sydney to Albury); the Northern
line and branches (from Sydney to
Jennings); and the Western line
and branches. In 1911 the total
mileage open to the public was nearly
3900 m. The gauge is 4 ft. 8\frac{1}{2} in.

raising. The principal crops are wheat, maize, barley, oats, potatoes, lucerne, and tobacco, and fruit culture has greatly developed in recent years—oranges, lemons, and mandarins predominating. Enormous areas are utilised for grazing purposes, and the state is rich in mineral deposits. The chief exports are gold, silver, copper, lead, tin, coal, wool, butter, wheat, flour, timber, meat (frozen and preserved), hides and skins, tallow, leather, and cocoanut oil, which reached the amount of \$32,144,000 in 1911, while the imports were over \$27,000,000. The grange is 4 ft. \$\frac{1}{2}\$ in the methods by which it is supplied with the latest news, its make-up, or arrangement of slip matter in columns, and its power as features which find but a feeble parallel even so short a time as a century ago. The Press associations and agencies which provide the bulk of adily papers with foreign, political, parliamentary, legal, sporting, commercial, and social news, stock and and numerous. Sydney is the capital, but other important towns are New-castle, Bathurst, Goulburn, Parramata, Broken Hill, Maitland, and Albury. Sydney is the headquarters of the squadron in Australian waters, and is the seat of a university. Education is compulsory-between the ages of six and fourteen years. The rail-with the methods by which it is supplied with the latest news, its make-up, or arrangement of slip matter in columns, and its power as features which find but a feeble parallel even so short a time as a century ago. The press associations and agencies which provide the bulk of adily papers with foreign, political, parliamentary, legal, sporting, commercial, and social news, stock and entury and smaller publications of the squadron in Australian waters, and interest or included with the latest news, its make-up, or arrangement of slip matter in columns, and its power as upplied with the latest news, its make-up, or arrangement of slip matter in columns, and its power as upplied with the latest news, its make-up, or arrangement of slip matter

shape the messages as they arrived in | we borrowed, if not the idea of a N., the newspaper offices in striking and readable form. But as in other spheres so in the news-agency world, competition soon brought the cost of messages down to a comparatively trifling amount, and as among the agencies themselves those survive which were able to reduce their expenses by co-operation and centralisa-Formerly the news agencies furnished articles, summaries events, descriptive writing, and other literary matter; but their activities are at the present day narrowly specialised into the transmission of curt, bald messages, the N. maintaining their own special staffs of reporters to write up descriptive articles. while many of them send their own reporters into the gallery of the House of Commons and the law courts.

It is not easy to trace the origin of the N. Press, but at least it is clear that analogies in the Roman Acta Diurna or the Venetian Gazettas are very remote, and hardly less so than the old English news-letters of the 16th century. It was essentially the invention of printing and the more or less accidental removal of restrictions on the liberty of the Press that favoured the growth of modern N., and it is noteworthy that the public spirit and enterprise of the British people entitle them to claim honour of originating the publication of the N. as it is known to-day. Still the Acta Diurna, or daily Roman gazette, the origin of which is ascribed to Julius Cæsar, contained much of the matter to be found in a modern N., e.g. for the copious reports of football and cricket matches and horse-racing may substitute narrations gladiatorial contests, and for parliamentary news the notices of the plebiscita of the Comitia. According to Cicero, Petronius, and other writers, the Acta Diurna (called also Acta Urbana or Publica) published an account of anything worthy of note, e.g. the fall of an aerolite on the Palatine, or any other portent, naval and military appointments, the edicts of the magistrates, the successes of the imperial arms, treaties, trials, executions, the acts of the senate, births, marriages, and deaths. But they marriages, and deaths. were purely authorised publications, and rather to be regarded as the official not the important 5 a voluntary

commercial speculation. They appear to have been written in manuscript and hung up in some conspicuous for governmental control, for ever public place. Charles Pebody, in his since the Reformation the governthat the

N., and t

many of the terms in familiar use to-day in connection with N. from the Venetians, e.g. the word 'gazette,' which word is apparently derived from the name of the coin charged for reading them. Like the Acta Diurna, the Venetian gazettes were hung up in public places. From the same writer we learn that Lord Burleigh is credited with having published the first English N. in 1588; but that publication, such as it was, was an isolated transaction in the nature of a notification to all England that the Spanish Armada was about to invade the country; and that the distinction of being the first man to print all the news of the day upon a single sheet, in a regular weekly publication, with a distinctive title, was one Nathaniel Butter, who brought out the Weekly News in 1622. Up to that time the only means of circulating news was the news-letters, which were the Ms. productions of professional London news-writers (of whom Butter was one and 'apparently a very popular and busy one'), who collected the gossip and rumour of the city, and general items of interest of the day, and sent it out to the provincial aristocracy, or any one else who was willing to pay for the luxury. (See also JOURNAISM.) There were, however, during the Civil War and the Commonwealth a great number of N., but their publication was only by leave of the Star Chamber. When the Licensing Act (Act for licensing printing presses) expired and the Star Chamber had been abolished, it was believed by printers that they had a legal right to publish what they chose. But the judges, who, with one or two remarkable exceptions, were at all times during the Stuart period subtimes during the Stuart period subservient to royal wishes, decided that by the common law of England no man, not authorised by the crown, had any right to publish political news, though he might print at his own risk a history, a sermon, or a poem without licence. But it was political intelligence above all that the reading public wanted and that the reading public wanted, and that forms indeed the staple diet of N. at the present day. But it was essential to the interests of an autocratic ministry of 'placemen' that the military of patients and public should be kept in ignorance of political matters, and hence ensued for a century an historic struggle between parliament and the people over, the freedom of the Press. There was no doubt some constitutional warrant the printing and publication is in order to prevent the

ity. Up to the Long Parliament the duty of censoring publications was performed by the Archbishop of Canterbury or his subordinates, and offenders were prosecuted in the Star Chamber. The Press became temporarily free on the abolition of the Star Chamber; but the Long Parlia-ment, becoming frightened by the mass of pumphlets which were soon broadcast over the country, again subjected books and other reading matter to licensing regulations; and at the Restoration a most retrogressive step was taken in the passing of the

tually vested entire control on-renewal of utomatic exway for the

freedom of the Press.

Among the earliest of English N. after the Restoration were the Protestant Intelligence, the Current Intelligence, the Domestic Intelligence, the True News, and the London Mercury. But none of them printed debates in parliament, and none exceeded in size a single small leaf, or was published oftener than twice a week. According to Macaulay (History of England), the quantity of matter which any one of these N. contained in a year was not more than is often found in two numbers of the Times of his day. Towards the end of Charles nis day. Towards the end of Charles II.'s reign that monarch, backed by the decision of his judges, allowed no other paper to be published but the London Gazette, a bi-weekly production which contained nothing but what the court deemed suitable to its purposes. As indicated above, it was not till some time after the Revolution that the Press really became in any modern sense a free institution, and the first daily N., the Daily Courant, was not published till the accession of Queen Anne in 1702. (For the character of this and other contemporary periodicals of this the classic age of English literature, see JOURNALISM.) Even after the abolition of the licenser of books (including N.), there was another obstacle to the free publication of N. in the shape of the N. tax, the Bill for which was passed as the Stamp Act in 1712. It was the old bugbear of sedition which prompted this device for killing the N., a device which was eminently successful, for not one penny paper survived, and even Addison's Spectutor collapsed, while Steele incurred the wrath of the Attorney-General for articles in the Englishman and the Crisis, which were held to be 'asper-

circulation of seditious matter or of the administration.' But the spirit matter contrary to religion or moral- of freedom was too much in the air after the final overthrow of the Stuarts to allow of anything like a final suppression, and the printers soon evolved means of evading the Stamp Act; and in this they were strenuously aided and abetted by the leaders of the Opposition, to whose often scurrilous and venomous attacks on their political rivals we owe the beginning of the publication of proceedings in parliament (see further on this, JOURNALISM). By the Act of 1840 the publication of any reports, papers, votes, or proceedings of either House of Parliament, by the order or under the authority of that House, is absolutely protected, and also the republication in full.

But modern parliamentary reporting is vastly different from what it was in the days of Cave's Gentleman's Magazine or Henry Fielding's True Patriot. These latter papers published their scanty hearsay reports rather by the connivance of sympathisers, and it was probably seldom that they ever gave anything approaching even a short verbatim report of a speech at or even about the time of its utter-With the final removal of all restrictions other than the ordinary law of libel, came the development of shorthand reporting. Previous to that, reports of debates had gradually grown fuller, and naturally men with long memories were an acquisition to a N. staff, for no stranger dared be chronicle, which for long was the leading English N., possessed an astonishing mental note-taker in the person of one ' Memory ' Woodfall. It is recorded that this man frequently accomplished the feat of writing re-ports extending to many columns, faultless in the matter of accuracy, without ever having put pencil to paper while the speech was in course of delivery. About this time the London Magazine began to publish what at that time were elaborated reports. But in all cases the names of the speakers were suppressed with the exception of the first and last letters, much in the same way as cartoonists used to do in comic journals of the eighties. In 1738 parlia-ment seems to have taken steps to stop the practice of reporting, for the debates were thereafter published as if they had taken place in a fictitious assembly. In 1745 the printers of the London Magazine were placed in custody for reporting the trial of Lord Lovat before his peers, and in 1764 the House of Lords fined the proprietors of the London Evening Post sions upon the character of Queen £100 for mentioning the name of one Anne, and assaults upon the conduct of the speakers. But after that public

sympathy for reporting became too! stories, or follow un a message from sympathy for reporting became too, stones, or follow up a message from strong for parliamentary privilege, with the result that reporting gradually became recognised as lawful, became recognised as lawful, line glancing through a pile of papers Parliamentary reporting laid the seeds of the future prosperity of the mising matter, which, when selected, Morning Chronicle; but it was not is cut out and pigeon-holed for future until the midde of the 18th century reference, e.g. in perusing a Penang that its then editor that its then editor,

to an end.

The atmosphere and sounds of a typical modern N. office are the reverse of congenial to quiet scholarly However large the building, many of the rooms are filled with the 'crunch' of the guillotine cutting the paper and the monotonous thudding and vibration of the linotype printing-machines. In most departments there is a constant ringing of tele-phone bells and a whirring of venfans, while a perennial stream of messenger boys bring 'filmsies' from the news agencies or messages from superior officials to their subordinates; and again, towards the end of any afternoon the newsboys, at the distribution of the so-called '6.30' editions of the evening papers, fill the yards below with a shrill tumultuous noise which it is no hyperbole to compare with the sounds nyperbole to compare with the sounds issuing from a menagerie. It is impossible without a certain degree of usage to accustom oneself to these various distracting noises, and a reporter endeavouring to write up pithy, accurate copy for an impatient sub-editor may well 'kill' his own 'story' through inability to concentrate his faculties on its salient points. It is probable that the 'space' reporters and the sub-editors have the most unenviable duties to fulfil. 'Space' reporters (as distinct from salaried) depend for their earnings, on the amount of their copy that appears in the paper and if the story' on which they are sent out is not one which has 'news-end' to it, or in other words, is neither of much e saw an announcement

mitiated the system of relays of reporters. By saw an announcement was sailing for England valtzing mice. On the reporter has time to write out his notes in full, while his colleagues continue the note-taking, with the result that a complete report of any debate is in readiness for the printer practically as soon as the debate itself comes to an end. editor, having made up his list, assigns a staff reporter to one or more stories,' and sends them out in quest of details. A good reporter will not return until he has found out all that is possible, though, as may be expected, a considerable number of the 'stories' turn out failures from the point of view of the N. (For a reference to some smart journalistic coups, or 'scoops.' by reporters, see Jour-NALISM.) The sub-editor's functions consist principally in cutting the reporters' copy down to the limits prescribed by considerations of space. in prefixing appropriate headings and sub-headings, and in indicating to the compositors the relative sizes of the type to be used in the headings, subheadings, and body of the 'story.' A narrative of an event of very great public interest indeed, as, e.g., the salient parts of a Budget speech, or an account of a battle, would be in 'leaded' type, while news of relatively small interest would be in 'minime.' A chief on a different actively small interest would be in 'minime.' A chief on a different active. 'minims.' A chief sub-editor's duties are no light task. An item of news may be flashed over the wires or through the telephone just as the paper is going to press, and he must make up his mind whether it would not be advisable to hold the paper back for a time pending further information, or whether he may safely consign the intelligence to oblivion as consign the intelligence to oblivion as a mere hoax or an infounded rumour from a well-intentioned but misintormed foreign or special correspondent. A notable achievement in this connection was accomplished by the Daily Mail on the lamentable occasion of the sinking of the Tilanic. Most, pagers went to press and came other words, is neither of much the Daily Mail on the internation present public moment, nor likely to occasion of the sinking of the Tilanic. produce really fresh intelligence, it is more than likely to be 'held' by a sub-editor, i.e. it will be put in a and were bound to rush out second basket against a problematical use in a future edition, though in reality it total loss of the ship with 2500 pergenerally dies a natural death. Most sons came to hand; but the submorning news editors follow the same editorial staff of the Daily Mail were bounded. practice. A list of the main events is suspicious of the inconsistencies and drawn up by a news editor and his generally unsatisfactory nature of the assistant, who scan the various mornimessages, and kept the paper backing papers of the day for likely from the printing room till 6 A.M.,

with the result that their morning in public favour, while one evening

result that their morning edition sold to the number of something like 2,000,000 copies.

Reports of lawsuits, police court charges, and criminal prosecutions at the sessions and the Central Criminal Court, are supplied largely by news-agency reporters. The Times employs barristers to make their reports, and the Daily Telegraph also employs a special staff of law reporters. At the present day there are three newsagencies that undertake law reporting, and as may be inferred from the strenuous competition, the rate of pay is not high, the weekly salary being about £2 for the forty weeks of the law terms, while a lucky reporter can about double his earnings commissions on reports accepted by N. Reports of cases destined to appear in the London evening papers are written up in the law courts as soon as the reporter catches the drift of the cause of action, sent down to the sub-editorial room in the law courts, and either taken by messenger or transmitted over the tapemachine to the central offices of the agency, the editorial department of which retails it to the N. Reports of cases regarded by the reporter as likely to be of interest to provincial N. are written as filmsies '(very thin ships makes the copy to be repeated to any number for despatch to different provincial papers interested) and sent by post, or telegraphed, or telephoned. Short results of trials, as of cricket matches, horse races, or any other sporting event, or of elections, and of other matters of great public interest, are generally to be found in the 'stop-press' or blank space of an evening paper (in N. circles this is called the 'fudge'), this device being adopted to avoid re-setting type. (For the outstanding features of novelty in modern journalism, and some remarks on French and American N., see JOURNALISM; for the histories of individual N., see DAILY CHRONICLE, DAILY MAIL, etc., etc.; and for the history and bearing of advertise-

ments on N., see ADVERTISEMENTS.)
The rise and wane of particular N. is not easy to account for, and N. proprietors, like theatre managers, have ample cause to moralise over the authors. curious fickleness of public taste. Bad management, over-capitalisation, an unpopular political cause, may each and all have something to do with non-success. Experience shows that genuine independence in politics and a consistently literary or elegant flavour about a N. are both fatal to

paper at least owes its continued success partly to politics but mainly to the prominence given to sporting news. Arrangement of news items and method in the general distribution of news, articles, causerie, 'lobby' rumour, or political notes, and so on, have no doubt some bearing on success; but they are matters which in themselves have no effect in the absence of an already substantial reputation. On the whole the English N. press is not undeserving of the encomiums heaped upon it, though there should be discrimination in the apportionment of praise, for the in-dividual papers differ fundamentally in methods of policy and appearance. Sometimes complaint is made of the tyranny of the Press over public opinion, but it is at least doubtful whether in all cases the Press influences public opinion or vice versa. If undue prominence is given to murders, divorce petitions, breach promise cases, and the generally sensational, whether really or only apparently of 'human interest,' the public is mainly to blame. A universal desire for the N. to use their power principally for educative purpower principally for educative purposes would be quickly reflected in the N. themselves. The undoubtedly greater degree of sobriety of many modern N. as compared with the universal scurrility of tone of N. in the days of 'Junius,' or even later, leads one to infer that such a desire is really if slowly developing. It is part of a larger question whether the mass of news daily given to the public is in news daily given to the public is in itself, and quite apart from manner of presentation, of any spiritual value. Even Lord Salisbury, occupying during the Boer War a position the ap-

the light of N., to deprecate the reading of N. generally. But his was an academic utterance, and most men are quidnuncs at heart, perpetually demanding 'of all the thousand things of the hour their stupefying power,' and the general affairs of

power, and the general affairs of mankind hardly permit one to see from the serene skies above 'how boundless might his soul'shorizon be.' Newstead: 1. A vil. of Roxburghshire, Scotland, on the Tweed, 1 m. E. of Melrose. Remains of a Roman camp were excavated here in 1910. Armour and weapons were also found. Armour and weapons were also found, and Roman coins dating from the reign of Augustus to that of M. flavour about a N. are both fatal to Aurelius. 2. A par. and vil. in circulation. The cheaper N. rely either Nottinghamshire, England, 9 m. N. upon a trenchant political campaign of Nottingham, near the outskirts or sheer sensationalism to keep them of Sherwood Forest. Its famous

abbey was founded by Henry II. in An introduction to the N.T. deals in the latter half of the 12th century, a general manner with all such quesand it was granted by Henry VIII. to the Byron family, who held it until 1818, when the last Lord Byron sold It has since been restored at a of about £100,000. See W. cost of about £100,000. Irving's Abbotsford and Newstead. 1835.

Newt, Eft, Asker, Mankeeper, Darkhiker (Triton), a genus of tailed aniphibians of the order Salamandrine. phibians of the order Salamandrines. They are widely distributed, and three species occur in Britain, viz. the Common or Spotted N. (T. vulgaris), the Great or Crested N. (T. cristatus), and the rare Webbed N. (T. palmatus). Of them, the Crested N. is the most aquatic. Its head is flat and the upper the company of the lower one. The lip overhangs the lower one. The upper parts of the thick round body are blackish brown with darker brown spots. The under parts are bright reddish orange, with round black spots. The sides are dotted with white, and in the spring all the colours of the rough skin brighten and the notched crest comes into promin-The male reaches a length of 5 or 6 in., while the Common N. rarely exceeds half that length and the skin is smooth, though its colouring re-sembles the other. The metamor-phosis of the N. is very interesting, and can be easily observed in a well-The eggs are managed aquarium. laid among pond weeds, and each protected by being rolled up in a leaf. The tadpoles which hatch from them may be distinguished from those of the frog by their more feathery gills. The anterior limbs appear first, and the hind legs are visible within a t that time the

ito use and the lody of the N. ransparent for

blood in the gills to be even more easily watched than the circulation in the web of a frog's foot. At the same time the development of the internal organs can be observed with greater case probably than in any other vertebrate. In a well-stocked aquarium, N. tad-poles are able to provide themselves with sufficient food; but as the metamorphosis proceeds and the diet becomes more carnivorous, difficulty may be experienced in providing a sufficient number of small worms, insect larvæ, etc., for their voracious appetites. If handled in the spring, As, are capable of causing slight un-pleasantness, but otherwise they are absolutely harmless. The fact that they leave the water and hunt for food at night-time makes them of considerable economic value as insect-destroyers.

tions affecting each book, as its age, author, object and aim, credibility, characteristics, integrity, contents. Thus, at least, it is defined by Davidson, while a more modern critic, Professor Jülicher defines the work of an introduction to the N.T. as 'that branch of the science of literary history whose subject is the New Testa-ment.' It forms a considerable sec-tion of biblical criticism, and as such must be considered in regard to the whole (see Bible). But since many critics have devoted particular attention to the criticism of the N.T. as a whole as well as in its component parts, it is well to give a short sketch of the history of this department of study. The fixing of the canon of the N.T. was the work of some centuries, and before this took place there was much research of the kind that would now come under the head of N.T. introduction. Certain books were held as canonical in some places and by some fathers; in other places and by other fathers they were ignored. In the discussions which ensued as to the canonicity of such books, judgment was almost invariably based on his-Were those books torical grounds. which claimed to be written by apostles really apostolic? Similar Similar defence of the canonical books was also needed against the attacks of heretical sects. Thus we find many statements on points relating to N.T. introduction in such writers as Ireneus, Tertullian, and especially Origen. A large number of the proborigen. A large number of the prob-lems which confront the critics of to-day were not unknown to the fathers of the early Church. In the middle ages these problems were for-gotten and an uncritical tradition was received without question. The Bible was brought into far greater promi-nence at the Reformation, and it was inevitable that the new learning of the time should also render more scientific the study of the sacred books. The early reformers, Erasmus, Luther, and Calvin, all expressed opinions on the authorship and value of certain of the N.T. books differing from the traditional views: but it is to a Catholic that we owe the true foundation of the study of biblical Richard Simon, published his

tc du New Testament, followed in the next year by an Histoire critique des Versions du He deals with the New Testament. He deals with the N.T. in the light of the various theories advanced concerning it, with nsiderable economic value as in-the object of yindicating the tradi-tional view. Many critical introduc-New Testament, Introduction to the.

marked by the names of Michaelis and Semler. The former published in 1750 his Einleitung in die göttlichen Schriften des Neuen Bundes, which was much improved in the fourth edition (1788). He shows much breadth of view, dealing with the questions of inspiration, authenticity, and most of the subjects now dealt with under this head. Semler wrote no definite Einleitung. His contribution to N.T. criticism lies in his continual insistence on the distinction between the temporal and universal elements in the N.T. From the time of Michaelis and Semler the study of N.T. introduction has been carried on very vigorously by German theologians and scholars. Only the most import-ant can be named. J. G. Eichhorn in 1804-14 published the first three volumes of his Einleitung in das New Testament, and the two remaining ones appeared in 1827. It was a brilliant work, but few of its results have been finally accepted. In every way it is of less importance than the work of W. M. L. de Wette, whose Lehr-buch der historisch-kritischen Einleitung in die Kanonischen Bücher des New Testament appeared in 1826. The first edition of this work was characterised by a very anti-tra-ditional attitude, and is rather negative than positive. This, however, is changed to some extent in later editions. A work equally famous for its full but concise exposition is K. A. Credner's Einleitung in das New Testament, 1836. But, like Eichhorn, Credner shows too much haste in the formation of theories. In 1842 appeared Reuss's Geschichte der heiligen Schr. New Testament (last ed., 1887), Scar. New Testament than the service in the investigation of the probler biblical criticism. Most of

biblical criticism. Most of writers, especially De Wette, oc a position more or less opposed to that of the Tüllingen school, whose head was F. C. von Baur. He pub-lished a number of works on the N.T. and early Church history, in which he definitely assailed the historicity of the canonical books. These he considered were to be regarded as more or less polemical treatises embodying the tendencies of the opposition parties in the early Church. One of these was the Judaistic headed by these was the Judaistic neaded by Peter; the other, headed by Paul and s the catho-

ritings were

relation to

years that followed—in England, attacks on the Tübingen position France, and Germany; but the next came from a former disciple of Baur, epoch in the study of this subject is A. Ritschl, in the second edition (1857) of his Enstehung d. altkatholischen Kirche. Reference must also be made in modern times to the intro-ductions of Holtzmann (3rd ed. 1892),

Weiss (Eng. translation, 1889), Davidson (1848-51), Lahn (1897-99), and Jülicher (1894). See also Bible. Newton: 1. A tn. of Scotland in Mid-Lanarkshire, 5 m. N.W. of Hamilton. Pop. (1911) 2200. 2. It Hamilton. Pop. (1911) 2200. 2. It is also the name of a suburb of Auckland, N. Island, New Zealand. Pop. 3500. 3. A city of Massachusetts, U.S.A., in Middlesex co., on the Charles R., 10 m. W. of Boston, and a residential suburb of that city. There are foundries and machine factories, and manufs. of electrical apparatus. Pop. (1910) 39.806. 4. A city of Kansas, U.S.A., and the cap. of Harvey co., 30 m. N. of Wichita. There is a Mennonite settlement here. The trade is chiefly agricultural. Pop. The trade is chiefly agricultural. Pop. (1910) 7862.

Newton, Alfred (1829-1907), an

world. He published Zoology of Ancient Europe, 1862; Ootheea Wol-leyana, 1864; Zoology, 1872; and a Dictionary of Birds, 1893-96.

Newton, Sir Charles Thomas (1816-94), an English archeologist, born at Bredwardine in Herefordshire. In 1840 he entered the British Museum as assistant in the Antiquities Den the Antiquities Department, then undivided. In 1852 he became vice-consul at Mitylene, and in 1853-54 consul at Rhodes. During this time, aided by funds supplied by Lord Stratford de Redcliffe, he discovered an important series of inscriptions at the island of

f the mauso-In 1860 he

was appointed consul at Rome, but in 1861 was recalled as keeper of Greek and Roman antiquities at the British Museum.

Newton, Gilbert Stuart (1794-1835), an American painter, born at Halifax, Nova Scotia. He first exhibited at the Royal Academy in 1818, becoming an associate in .

in 1832. Quixote in

tain Machee and Lucy,' Grisette,' 1830; 'Portia and Bas-sanio,' 1831.

Newton, Sir Isaac (1642-1727), born this struggle. The main thesis of the at Woolsthorpe, Lincolnshire, post-Tübingen School is now generally humous son of a farmer, I. Newton, rejected, and its conclusions distant Hannah Ayscough. Educated at credited. One of the most convincing the Grammar School, Grantham, and

to controversics extremely wearisome to N. Previous to this, from 1665-67, he was engaged largely in mathematics, having studied Descartes' geometry, and invented the binomial theorem, the method of tangents, and the fluxional calculus, his paper Analysis per Equationes Numero Terminorum Infinitas leading to his professorship. In 1666 his thoughts were directed by the falling of an apple, according to Voltaire, to universal gravitation. From Kepler's third law he deduced the law of inverse squares and applied it to the motions of the moon; but did not



SIR ISAAC NEWTON

complete his verification till he had Picard's now value (69.1) for the length of a degree of latitude, which was found in 1672. In 1684 he wrote De Molu, which was presented to the Royal Society. This was the germ of his great work, and with additions formed the first book of his Philosophiæ Naturalis Principia matica, written 1685-86, during which time he was in constant correspondence with the astronomer-royal, Flamsteed, chiefly on the subject of measurements of planetary orbits. The whole work was published in 1687. In 1689 N. was elected to represent his university in the Convention Parliament. During 1692-93 he passed through a period of serious illness, with loss of appetite and marked insomnia. He was at last, in 1694, largely due to the efforts of John

Trinity College, Cambridge; he was Locke, appointed by Lord Montague, elected F.R.S. in Jan. 1672. This led warden of the Mint, and three years warden of the Mint, and three years later master. The year 1701 saw him again in parliament, but he was de-feated at the polls in 1705. He be-came president of the Royal Society in 1703, and was annually re-elected for the remainder of his life. He was knighted by Queen Anne in 1705. His Optics was published in 1704. A very prolonged controversy took place as to priority of claim to the invention of the new calculus between N. and Leibnitz, and there were disputes. In 1714 N. gave evidence before a committee of the House of Commons on the question of finding longitude at He was interested in theological studies and the ancient prophecies, and some of his writings were published after his death. Amongst his great friends must be reckoned Halley. He was also welcomed at the court of George I. He died at Kensington, and was buried in Westminster Abbey. Among English scientists he stands Among English scientists he stands easily foremost, and without doubt is the greatest of the world's natural philosophers. See Dr. Horsley, Isaaci Neutoni Opera quæ existant Onmia, 1779; Sir D. Brewster, Memoirs of the Life, Writings, and Discoveries of Sir Isaac Neuton, 1855; Gray's Bibliography, 1888; A. de Morgan, Life, 1886 1885.

Newton, Thomas (1704-82), Bishop of Bristol, born at Lichfield. He was ordained in 1730. After holding various minor appointments he became bishop of Bristol in 1761. He edited Milton's Paradise Lost, and published

Dissertations on the Prophecies.
Newton, Thomas Wodehouse Legh,
scool Baron (b. 1857), eldest son
of the first Baron N., created 1892;
was educated at Eton and Christ He entered the Church, Oxford. diplomatic service from 1880-86, and was attached to the embassy in Paris. From 1886-99 he was member of parliament for Newton, cashire, on the Conservative side. He is a J.P. and D.L. for Cheshire, and an honorary lieutenant-colonel in the Lancashire Hussars, Imperial Ycomanry. He succeeded to the title in 1898.

Newton, John (1725-1807), an English divine, and friend of Cowper, lish divine, and friend of Cowper, born in London. First a sailor and slave-trader; 1755-60, tide-surveyor at Liverpool; 1755, Archbishop of York refused him ordination; 1761, ordained by Bishop of London; curate of Olney till 1780, when he became rector of St. Mary Woolnoth, Lombard Street, London. With Cowper, published Olney Hymns in 1779. Lives, contemporary, by Bull and by Callis (1908). Newton Abbot. ascaportand market

Newton Abbot, a scaport and market

town of Devonshire, England, on the estuary of the Teign, 20 m. S.W. of Exeter. The Great Western Rail-way has large engine works here, and there is some trade in shipping. Pipeclay and fine china clay are obtained in the neighbourhood. William of Orange was proclaimed King of England here, at the Market Cross, in 1688. Pop. (1911) 13,712.

Newton Grange, a vil. N.E. of Edinburgh, Scotland, 2 m. S. of Dalkeith, with coal mines, brick and tile works, paper-mills, etc. Pop. (1911) 1156.

Newton Heath, a tn. of Lancashire, England, 11 m. N. of Manchester, on the Medlock. There are cotton-mills, and dye, bleach, and chemical works. It is a suburb of Manchester.

Newton-in-Makerfield, or Newtonle-Willows, an urban dist. and tn. of Lancashire, England, 15 m. E. of Liverpool. The Liverpool farm re-formatory school is here, with a farm and market gardens. There are iron foundries, glass factories, sugar refineries, and printing and stationery works, paper-mills, etc. Coal is mined in the neighbourhood. Pop. (1911)

18,462.

Newton's Rings. Newton took two lenses of very slight curvature, so arranged as to enclose, when pressed together, a film of air, thinnest near the centre and thickening gradually outwards. On pressing, a number of concentric coloured rings appeared, varying in number and arrangement, but all exhibiting colours of the spectrum; the centre of the rings when the glasses were in contact was black. With white light the number of rings is seven, and the colours are arranged from violet to red outwards. When the light is transmitted instead of reflected, the colours are com-plementary and the black spot becomes white. The convex surface being pressed on the plane surface of the lower lens encloses a film varying from 5556555 to 756566 in. in thickness outwards, the thickness varying as the square of the distance from the centre. The light is reflected from each surface and arrives at the eye, having traversed paths differing minutely in length. They are thus minutely in length. They are thus seen simultaneously in the same phase or opposite phases, thus producing interference, destruction, or rein-forcement. The different colours produce their effects at different distances from the centre, and by measurement the actual wave length may be determined.

Newton Stewart, a market tn. of Scotland, in the cos. of Kirkeudbright and Wigtown, on the R. Cree, 61 m. N.N.W. of Wigtown. Cattle markets and horse fairs are held. Pop. (1911)

2061.

Newton-upon-Ayr, a suburb of Ayr, Scotland.

Newtown: 1. A manufacturing tn. of N. Wales, in the co. of Montgomery, 8 m. S.W. of the town of that name, on the r. b. of the Severn, and on the Montgomery Canal, which connects it with the inland navigation of the It is the centre of the country. flannel manufactures of the county. (1911) 6068. 2. A tn. New South Wales, Australia, in Cumberland, 3½ m. from Sydney, and principally a residential suburb of that city. Pop. 23,000. 3. A suburb of Hobart, Tasmania. Pop. 3000. Newtownards, a tn. of co. Down.

Ireland, ne Lough, Er

hams, and

factured. I the ruins o (1911) 9000. Newtown Hamilton, a par. and

market tn. of co. Armagh, Ircland, 11 m. W. of Newry, Pop. (1911) 3000. Newtown Stewart, a market tn. in co. Tyrone, Ireland, on the Mourne, 24 m. S. of Londonderry. Pop. (1911)

1100.

New Ulm, a city of Minnesota, U.S.A., and the co. tn. of Brown co., u.s.A., and the co. th. of Brown co., on the r. b. of the Minnesota R., 75 m. S.W. by W. of Minneapolis. It was founded in 1854 and destroyed by Indians in 1862; it has been well re-built since then. A trade in live stock is carried on. Pop. (1910) 5648, New Urgenj, see Urgenj.

New Westminster. a to of British.

New Westminster, a tn. of British Columbia, Canada, former cap. of the prov., on the r. b. of the Fraser R., here crossed by a fine bridge. It is a terminus of the C.P.R.; an electric-railway connects it with Vancouver, 10 m. E.S.E. A fire occurred in 1898, when a large part of the city was destroyed. Pop. (1913, est.) 20,000.

New Whatcom, a former city of Washington, U.S.A., now part of

Bellingham.

New Year's Day has been cele-brated in all parts of the world, and from remote antiquity with special festivities. The date of the commencement of the new year has, however, varied considerably. The however, varied considerably. The ancient Egyptians and Persians commenced it with the autumnal solstice. The Jews (ecclesiastical) and the Babylonians made it begin in March. During the middle ages Christian countries almost invariably began the new year on March 25. According to the Julian calendar, the new year began on Jan. 1., and the Romans observed this day as a general holiday. Visits were paid and presents exchanged, the custom of giving presents being popularly derived from the time of the legend-

ary King Tatius. The gifts were known as strenæ (cf. the name for N. Y. D. in France, le jour d'étrennes), and so great were the imperial strenæ that they ultimately became a subject of legislation. The early Christians were not expected to take part in either the new year's revels or the Saturnalia of December, and many of the fathers order N. Y. D. to be kept as a fast. But the need for this vanished, and even in England the custom of giving New Year's gifts continued down to the time of Charles II. It has now given way to the presentation of Christians presents. According to the Gregorian calendar, N. Y. D. arrives twelve days earlier than in the Julian calendar. Hence, in Russia and other countries which keep the old style, N. Y. D. is celebrated on Jan. 13 by our calendar. New Year's Islands, islands of S.

America, situated in Tierra Fuego, Argentina, at the extreme S. of the continent. There is a meteoro-

logical station here.

New York Bay, an opening at the mouth of the Hudson R., upon which New York City stands. It consists of New York Upper Bay, formed by the North and East rivers, and New York Lower Bay, an arm of the Atlantic.

York Central Railway was startec dates :

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ranch Chicago, 1 dines and f the

York terminus is a grand building, and a perfect network of lines run into it. The great roof is mostly of glass. It New York, It is one of the sights of rk. The dividends are very large, and for years past there have

been large surplus profits.

New York City proper is the Island of Manhattan; but greater New York includes the boroughs of Bronx, Brooklyn, Queens, and Richmond, and part of Chester City. New York is the second largest city in the World, and has more Germans living in it than in any city in Germany save Berlin, and more Irish than in Dublin. Every fourth person in New York is a Jew. As regards population, emales is also

which is always a feature of large ports. Many Chinamen are engaged in laundry work. There are a great many Italians employed as labourers and bricklayers. The negro population is comparatively small. The Jews are chiefly Polish Jews, Swedes The and Norwegians have each a strong the rivers are of immense size.

colony in New York, and are prosperous, quiet, working citizens. Owing to the size of Manhattan Is., (12 m. in length and very narrow), sky-scrapers have been erected, the famous Woolworth Building, the tallest in the world, being 750 ft. high. The Singer Co.'s building is 612 ft. high; Puhtzer building, 310 ft.; and Flat-iron, 290 ft. The Dexel building has 23 stories, and Park Row 32. New York is the great mart and exchange of the U.S.A. The Stock Exchange is in Wall Street, a

across which run the avenues. The Fourth and Fifth Avenues are mostly residential, and here are the palatial homes of the business kings. Principal shopping district from Seventeenth to Thirty-fourth Streets. Bowery, extending N. of Chatham Square, is the Jewish quarter, and the poorest part of the city. Two lines of railways have termini in Manhattan, the New York and Newhaven, and Long Is. and New York, connecting with mainland by means of long tunnels. Other big lines are New York Central, Eric and Lehigh Valley, and the Penn-ylvania railways. The Elevated Railway is a feature of the city, and there is now a fine underground railway along the whole of Manhattan
Is. New York is the largest port
in America, 3 per cent. of imports
of United States coming by way
of this city. The exports are imof this city. The ex mense, and increase mense, and increase every year. New York Harbour is formed by the North and East rivers, mouths of There are two bays, the Hudson. the Hudson. There are two days, the upper and lower, divided by the Narrows, commonly called Hell's Mouth. Bounded on the S.E. by Raritan Bay, N.E. by Brooklyn and Long Is. Sound. The promontory of Sandy Hook with lighthouse is the days land sighted by Euronean travel-

electricity: it is said to be the largest statue in the world. The water communication of the Hudson R. and the Erie Canal is of the utmost importance, for most of the wheat sent from chicago market is thus shipped through to Europe. The principal Chicago harmone. The principal through to Europe. The principal Transatlantic lines of steamships are the Cunard, the White Star, the N. German Lloyd, and the Hamburg-American. Many of the piers are on New Jersey side at Hoboken; others on the North R. The United States naval shipbuilding yards are on the Brooklyn side. The ferries crossing

principal industries are the making of ready-made clothing, paper-making, printing, leather working, tobacco, and sugar-refining. New York City leads in literature in the United States, owing to the many large publishing houses which have been estab-The monthly magazines are exceptionally good. New York is noted also for its daily papers, over one-seventh of which are printed in one-seventh of which are printed in foreign languages; two are in Yiddish. There are two universities, Columbia and New York City, the undergraduate department of which is on Washington Heights. From the Campus a grand view of the Hudson is obtained. The Hall of Fame, which forms part of the university buildings, press on a colorage of 500 ft long. opens on a colonnade of 500 ft. long. The People's Institute, primary and adult evening school, uses Cooper's Hall for debates and meetings. There are good primary and secondary schools, and many excellent private The New schools and seminaries. The New York Public Library, established by consolidation of the Astor, Lenox, and Tilden foundations, was opened in 1911. There are seats for 768 readers; there is capacity for about 2,570,000 volumes. The Bellevue Hospital Medical School is the largest medical school in America. There are 550 churches: Trinity, at the head of Wall Street, Grace Church, the Church of the Transfiguration, known as the 'little church round the corner (Episcopalian), St. Patrick's Cathedral (Roman Catholic), Madison Square Church, Byzantine with golden dome Church, Byzantine with gotten uchine (Presbyterian), and the fine Jewish synagogue are all notable. In 1624 the Dutch Trading Company founded New York, but in 1664 it was taken by the English. The Chamber of Commerce received its charter by Act of Parliament in 1768. Washing-ten was innerworted to precident. ton was inaugurated as president of U.S.A. in Federal Hall, New York, and the city was capital of the state till 1797. The New York Central Park is 840 acres in extent, and has many magnificent drives and walks. At the main entrance is a fine statue of Columbus. The Metropolitan Art Museum faces the E. side. Morning-side Park is smaller, but very beautiful, and Riverside Drive, overlooking the Hudson, is a grand thoroughfare. Prospect Park, on the Brooklyn side, is of botanic interest. There are two Brooklyn bridges - the suspension bridge, which created quite a furore when first built, and the new Brooklyn bridge, a triumph of engineering skill. The rate of living is high, and rent disproportionately heavy. Large boarding-house and tenement build-ings, palace-like hotels and apart-ment houses, are a feature of the city,

ground being too valuable for ordinary dwellings. There are fine municipal buildings. Pop. (1910): Manhattan, 2,331,542; Brooklyn, 1,634,351; Bronx, 430,980; Queens, 284,041; Richmond, 85,969; total, 4,766,883. 1,634,351; ns. 284,041; See TAMMANY HALL.

New York Herald, founded in 1835 by James Gordon Bennett, who after an editorship of many years was suc-seeded by his son who bore the same name, and who greatly increased his father's initial success. The paper

has always been immensely popular. It has a circulation of 130,000. New York Journal, founded in 1733 as a weekly: became a daily in 1788. Has largest circulation of any evening paper in New York, average of 700,000 copies daily. It is the property of William Hearst, (b. 1863), son of William Hearst, the great railway financier and millionaire Francisco, who San known for his successful newspaper enterprises. He is the representative of popular democratic journalism. So sensational were his papers that they gained the nickname of the

Yellow Press.

Yellow Press.'
New York State, the most influential of the U.S.A., called 'the Empire State,' one of the original thirteen states; three times the size of England; bounded on N.W. by Lake Ontario, N. by the prov. of Quebec, E. by Vermont, Massachusetts, Connecticut, S. by New Jersey, Pennsylvania. Area 47,645 sq. m. The beautifully wooded Adirondack M's. are in the N., the Catskills in the E., Ohawanglak Range in the S. Lake Seneca and Lake Cayuga are the largest of the Finger Lakes, a belt of lakes in Western New York, and both are about 40 m. in length. Lake Geneva is one of the prettiest. The beautiful George and Champlain lakes like Fotboother Thefarence Western lie E. of the state. The famous Hudson R., with Mohawk tributary, flows eastward through this state alone, whilst the Delaware and Susquehanna rivers drain the central part. Erie Canal, opened in 1825, connec s Eric Canal, opened in 1825, connects the Hudson with the Great Lakes. The largest cities are New York (4,766,883), Buffalo (423,715), Rechester (218,149), Syracuse (137,249), Albany (the capital, 100,253); Troy (76,813), Utica (74,419), Schenectady (72,826), Elmira (37,176). The state

cation is compulsory between eight and sixteen, and over 42,000 teachers are employed in the public schools, most of them being women. Univer-sities: Colombia, New York City, Cornell (where state scholarships can be obtained), Syracuse, and Hobart 120,000 daily, and a popular Sunday College, Geneva. St. Francis Xavier, New York City, is for Roman Catholics. Vassar College for women, at New York paper, founded by Horace Poughkeepsie on the Hudson, has a roll call of over 1000 undergraduates. The governor is chosen for two years and holds a very influential position. The Senate, which meets at Albany, is composed of 51 members, and the Assembly of 150 members, elected annually, 35 are sent from New York City. Members receive a salary of \$1500 and mileage. The form of capital punishment is electrocution. The first industries in importance are the ready-made clothing and print-ing. Agriculture is good. The state is noted for buckwheat, rye, and oats, but wheat crop poor. Large salt but wheat crop poor. Large salt mines, and immense yield of natural gas; rock and stone quarries; and famous mineral springs at Saratoga and Clifton Springs. The climate is subject to extremes of hot and cold ;

the air is dry and invigorating.

New York state was discovered by Verrazano in 1524, and in 1609 Samuel de Champlain entered from Canada at the same time as Henry Hudson, sailing under the Dutch flag, and reached New Netherland, the name first given to New York City. After much desultory fighting, Peter Minuit, in 1626, bought Manhattan Is. from Indians on behalf of the West India Company. In Colonel Nichols took possession in Duke of York's name. In the War of Independence the decisive battle of Golden Hill was fought in 1770, soon after the battle of Lexington, Massachusetts. A few years later, 1776, the Committee of One Hundred drew up the New York State Constitution at Kingston. During the Civil War between N. and S., party politics ran high, there being a strong anti-slavery feeling. Since 1860 the economic development has continued with uninterrupted smoothness. 1882 the Labour party secured the passing of a Bill limiting hours of passing of a Bill limiting hours of work for women and children. The state is one of the most populous of the U.S.A., with many large flourishing cities. Pop. (1910) 9,113,614.

New York Sun. This paper was started by a journeyman printer named Benjamin Day in the year 1833. He wrote, edited, and printed the paper by himself for some years.

the paper by himself for some years. It was later acquired by Charles Anderson Dana, who made a reputa-tion for himself in the literary and journalistic world, and whose articles were a marked feature of the paper in those days. He was succeeded by

Greely, who was proprietor-editor till his death in 1872. He was a man of great character and personality, and under his editorship the paper came to be noted for its sanity and came to be noted for its satity and trustworthiness. It was a power in the civil war of N. and S. The editorship was taken over by Mr. Whitelaw Reid, who had joined the staff in 1868, and who showed great journalistic ability. Under his editorship the paper more than retained its earlier reputation. It has a large foreign edition, also a. Sunday edition with a magazine supplement which is widely read. Its daily circulation is about 70,000. It costs 5 cents, and it was therefore the pioneer of the halfpenny paper, of which the Daily Mail is the English equivalent.

New York World, founded in 1860 as a religious paper, and taken over in 1869 by Manton Marble, who edited it until 1883, when it was purchased by Joseph Pulitzer, who greatly increased its circulation and popularity during his many years of editorship. During this time the famous Pulitzer building was built. Present circulation, over 300,000 daily. Large Sunday edition with coloured prints.

Price 5 cents (2½).

New Zealand, the name of a battle cruiser given to the Imperial navy by the Dominion of N. Z. It was launched at Fairfield in July 1911. commissioned at Govan on Nov. 19, 1912, and completed to full crew at Devonport on Nov. 23, 1912. Ton-nage 18,800. Speed 28 knots. New Zealand. The Dominion of

N. Z. consists of a group of islands in the Pacific Ocean, about 1000 m. to The three the S.E. of Australia. chief islands are: North Is., with a length of 550 m., a maximum breadth of 250 m., and an area of 44,468 sq. m.; South Is., or Middle Is., with a length of 550 m., a maximum breadth of 200 m. and an area of 58,525 sq.m.; and Stewart Is., with alength of 30 m; a breadth of 25 m., and an area of 665 sq. m. The coast-line of N. Z. is deeply indented in parts, and nearly equal in extent to that of Great Britain, but it is not so rich in harbours and navigable estuaries. North Is, is much more irregular in shape than South Is, the coasts of which are remarkably unbroken save in the N. and S.W. The harbours are very unequally distributed, and long unequally distributed, and istretches of coast exist without a stretches of coast exist without a William Laffan, who kept up the high single natural harbour. The princi-level the paper had attained until he pal straits are Cook Strait, Forcaux died in 1909. It has a circulation of Strait, Coromandel Channel, and

and islets off the coasts of the main The surface of N. Z. is exceedingly diversified; the most striking feature in the relief of the country is the mountain range which traverses both islands from Windsor Point in the S.W. of South Is. to East Cape in the N.E. of North Is. In the North Is, the two principal sections of the range are the Ruahine Range and the Tararua Mountains. To the W. and N. of the Ruahine Range are the Kaimanawa and other ranges. volcanoes of Tongariro (active, 6500 ft.) and Ruapehu (extinct, 9195 ft.) are to the S. of Lake Taupo; the most noteworthy peak in North Is., how-ever, is Mt. Egmont (8300 ft.), which stands in the centre of a promontory on the S.W. coast and is conical in shape. In the South Is. the main range is called the Southern Alps; this range is crossed at intervals by low passes, but its highest summits reach an altitude of over 10,000 ft., are covered with perpetual snow, and have immense glaciers in their higher valleys. Between Mt. Franklin and the W. coast are the Paparoa Mts., and between these and the E. coast are the Kai Koura Mts. and the Lookers On Mts. The loftiest peak in N. Z. is Mt. Cook, over 12,000 ft. high. Although N. Z. is mountainous it has extensive plains, lying mostly on the western side of North Is. and on the including gold, coal, iron ore and iron eastern side of South Is. The general sand, some silver, tin, copper, lead, character of the N. Z. scenery is si lar to that of the British Isles, though the latter have nothing its mountains or its lakes, springs, geysers, etc. N. Z. abounds country is sheep-farming, cattle-in rivers, most of which are, however, rearing coming next, then agriculture shallow and rapid, and none are navigable for more than a short portion of their length. The chief rivers in North Is, are the Waikato, the Wairoa, the Thames, the Piako, the Wanganui, the Manawatu, and the Hutt; in the South Is. the Clutha or Molyin the South Is, the Clutha or Moly-neux, the Waitaki, the Grey, and the Buller. The lakes of the North Is, are of volcanic origin, while the Al-pine lakes of South Is, have been formed by glacial action; of the former may be mentioned Lake Taupo, and of the latter Wakatipu. Before the eruption of Mt. Tarawera in 1886, the Rotomahana Lake (hot lake: Rad is Magni for 'lake') was lake; Rolo is Maori for 'lake') was widely celebrated for its pink and white terraces and boiling springs,

Strait, and Ruapuke Is. in Foreaux

Strait, whilst there are several islands

French Pass.

Kapiti Is. is in Cook the climate is more equable the former. Naturally, considerable variations are met with in different parts of a country which extends for over 1000 miles from N. to S.; the extreme N. of North Is. is subtropical in character, whilst severe frosts and deep snow on the uplands are common in winter in the South Is. There are scarcely any truly indigenous animals in N. Z., but the native plants are numerous and include many peculiar species. There are about 120 indigenous forest trees, all of them evergreen; the Kauri pine, which supplies 'Kauri gum,' several kinds of cedar, red and white birches, and the iron-wood tree may be mentioned. A great variety of ferns is found, and large tracts are covered with nutritious indigenous grasses which support millions of sheep: the N. Z. flax (Phormium tenax) is a vegetable produce of considerable importance, being much used in rope-making. Birds are numerous, and also include many species peculiar to the country. Fresh-water fish are not numerous, with the exception of eels; but many varieties of edible fish are found round the shores, and excellent oysters. There are no reptiles.

The soil of N. Z. is very fertile, the chief crops grown being wheat, maize, potatoes, and root crops, whilst fruits and vegetables are also largely grown.

rearing coming next, then agriculture and mining. The commerce of N. Z. is principally carried on with the United Kingdom and Australia; the chief exports are wool, frozen meat, gold, butter and cheese, hides, skins and leather, N. Z. flax, kauri gum, tallow, grain, pulse, and flour; whilst the imports are clothing, iron and steel goods, paper, books, etc., sugar, wines, beer and spirits, tobacco, fruits, tea, oils, coal, and famey goods. In 1911 the value of the imports was £19,545,879, and of the exports of 10,008,408. The principal parts of £19,028,496. The principal ports of the country are: Auckland and Wellington in the North Is., and Port Lyttelton and Port Chalmers in the South. Regular and frequent steam traffic exists between all the principal which were then destroyed. The climate of N. Z. is temperate and healthy, and similar to that of Great ports of North and South Is., and communication the Australian

Britain, save that it is warmer and America. The more equable. More rain falls on N. Z. Shipping Company; the Union the W. than on the E. coast, and Steamship Company; the Oceanic

and Albion Company. Most of the railways in the country are owned by the state, there being over 2800 miles of line in the dominion: the principal lines are from Auckland to Mokau, Rotorua, from Wellington to Napier, New Plymouth and Nanawatu. in the North Is., and from Culverdon to Lyttelton, from Invercargill to Bluff Harbour and Kingston, from Picton to Awatere, and from Nelson to Aoki-The dominion is governed by a governor appointed by the Crown. a legislative council, and a House of Representatives. Members of the before 1891, for life); of whom two are Ma bers of the House of number 80, four of wl and are elected trienmally by auut The members of the Upper suffrage. House are paid £200 and of the Lower House £300 a year. Education is free, secular, and compulsory; the University of N. Z., to which are affiliated the colleges of Dunedin, Christchurch, Wellington, and Auckland, confers degrees. There is no

to any form of religion. The chief towns are Wellington (the capital since 1865). Auckland (previously the capital), Napier, Nelso cargill.

1,008,468, exclusive of 49,644 blaucie. An eight-hour day is in force in the

state church, and no state aid is given

sique of all the Polynesian peoples, being superior in every respect to the aborigines Their language is a Australia. similar languages. The Maoris are its discretion allow any one to repre-diminishing in number. Polynesian dialect

gradually disappear as a race. N. Z was first discov peopled by the Maoris, who landed here from some of the islands in the 14th or 15th in

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Islands. N. Z. was made a dependency of New South Wales in 1839, but was separated therefrom in 1841,

nich the ned is as nded by his

Steamship Company; Shaw, Savill, the N. Z. Company in 1840; (2) Auckland, established in 1840, by the first governor, Captan Hobson, who made the first treaty with the natives, that of Waitangi, by which the sove-reignty of the island was transferred to Great Britain; (3) New Plymouth, founded in 1841 by the N. Z. Company; (4) Nelson, founded in 1841; (5) Otago, founded by a Scottish company 1848; (6) Canterbury, founded in 1850; (7) Hawkes Bay, part of Wellington prov. until 1858; (8) Marlborough, a part of Nelson until 1860. See H. Broadhead, State Regulation of Labour and Labour Disputes in New Zealand. tormer chamber are nominated by the 1908; R. Horsley, New Zealand: a governor for a term of seven years (if History, 1908; W. P. Reeves, New Leaves, New Years) 1908; State Experiments in New Zealand, 1902 D. Ferguson, Bush Life,

New Zealand Flax, see FLAX, NEW

ZEALAND. New Zealand Railways are practically all owned by the state. The principal routes are from Hurunui to Bluff, and between Wellington and New Plymouth, passing through Napier. In 1912 the total mileage in the colony was 2827, composed of 1173 government lines in the North Is., 1625 in the South, and 29 m. owned by private companies. total amount spent on the railways up to that time was £32,689,779. In 1911-12 the revenue was £3,676,509, and expenditure £2,465,896; 5,887,918 of goods were carried, and 11,891,134 passengers.

Next Friend, in law, a phrase used to denote the person who in any transaction acts on behalf of another, where that other either from youth, mental infirmity, coverture or from some other cause entailing legal incapacity, cannot act for himself (see also Capacity, Infancy, Majority). The N. F. of an infant or minor is not necessarily his parent or

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69-1815), a celethe first French He was a in a hussar tion began.

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took place in made a general of division in 1799. ionary settle- He was interim commander of the ment was established at the Bay of army of the Rhine for a short time, during which he frustrated an important movement of the Archduke Charles against Massena and "er the peace arır of i anxious to win 🕠 · night about

Niagara

the establishment of the empire, he was made a marshal. In 1805 he stormed the entrenchments of Elchingen, and was created Duke of Elchin-He afterwards rendered important services in the Tyrol; contributed much to the French successes of 1806 and 1807; and served in Spain with great ability in 1808 and 1809. In 1812 he received the command of the third corps d'armée, and greatly distinguished himself at Smolensk and the Moskwa, in consequence of which he was created Prince of the Moskwa. He had a principal part in the campaigns of 1813 and 1814. On Napoleon's return from Elba, N. was sent against Napoleon at the head of 4000 men; but N. went over to his side. In the battle of Waterloo, he commanded the centre, and had five horses shot under him. After the capitulation of Paris he retired to Switzerland; but a costly Egyptian sabre, the gift of Napoleon, led to his being suspected by an official, and arrested. He was condemned to death for high treason, and was shot in the garden of the Luxembourg. His sons 1833, See

Neyland. of Pembro

side of Milford Haven. It has a float-

ing stage and pontoon.

Nezhin, or Nizhan, a tn. of Tchernigof, Russia, on the Oster. Has trade in tobacco. Pop. 32,000.

Nez Percés (so called from their custom of wearing nose-rings), a tribe of N. American Indians, settled in Idaho, and eastern Washington and Oregon. After the Nez Perces War in 1877 the survivors were sent to Indian territory, but were transferred to their present district in 1884. They now number about 1800.

Ngami Lake, a former lake of W. Rhodesia, British South Africa. It was discovered by David Livingstone in 1849. It was 70 m. in length, with a breadth of 20 m., but now it is only

a swamp.

Ngan-ching, or Ngan-king, a tn. of China, and the cap. of the prov. of Ngan-hui, on the l. b. of the Yang-tse-klang R., 176 m. E. of Hankow. In 1897 it was opened to foreign trade.

Pop. 40,000.

Ngan-hui, or An-hui, a prov. of China, bounded on the E. by the provs. of Kiangsu and Chekiang, on the W. by Hupe and Honan, and on the S. by Kiangsi. It is watered by Yangtse-kiang, which flows through the fertile

Hortense Beauharnais, and appointed elevation of over 7000 ft. The N. him inspector-general of cavalry. On section is drained by the Huai R. Iron and coal are found, but they are not mined to any great extent. Its capital is Anching, and its treaty port is Wuhu, which has railway communication with Wenchow in Chekiang. Area 54,810 sq. m. Pop. 23,670,314.

Ngau-lu, a tn. of China, in the prov. of Hupe, situated on the l. b. of the Han Kiang R., 65 m. N.E. of Ichang.

Pop. 60,000.

Ngaundéré, a tn. of German Kamerun, W. Africa, 156 m. S.S.E. of Yola. Pop. 30,000

Ngauruhoe, see Tongariro. Ngornu, a tn. of Bornu, W. Africa. on the S.W. shore of Lake Chad. Pop. (est.) 20,000 to 50,000.

Niagara (formerly Newark), a tn. and summer resort of Ontario, Canada. in Lincoln co., on Lake Ontario, at the mouth of the Niagara R., 15 m.

from the Falls. Pop. 1400. Niagara Falls: 1. A city of Ontario,

Niagara Falls: 1. A city of Ontario, Canada, in Welland, on the W. bank of the Niagara R., opposite the Niagara Falls. It is connected with Niagara Falls, New York, by three bridges. There are several factories which utilise the water-power from the Falls, and a beautiful park, built cloud the rives hork. Par. 11 000. along the river bank. Pop. 11,000. 2. Formerly Clifton, a city of New York state, U.S.A., in Niagara co., on the E. bank of the Niagara R., at the Falls, 18 m. N.N.W. of Buffalo. The bridge which here crosses the river bridge which here crosses are fiver is 1240 ft. long, and there are also two railway bridges. The Falls supply water-power for the city, which is a shipping centre, with important manufs. Pop. (1910) 30,445.

Niagara Falls, on lower Niagara R., which is 20 m. in length, and connects Lake Erie with Lake Ontario. The Falls are the greatest in the world for volume of water. At Goat's Is. the river divides. There are two distinct falls, side by side: the American Fall, a sheer descent of 167 ft., and 1060 ft. wide; and the Horse Shoe Fall, on the Canadian side. The since rail, on the Canadian side. The volume of water of this Fall is terrific, and a depth of 158 ft. is taken in a leap. The spray is like heavy rain. It has been estimated that the water is at least 20 ft. in thickness. The Fall is over a grand curve of rock measuring 3010 ft. The Whirlmool is just below the Falls. a Whirlpool is just below the Falls, a raging mass of turbulent water. The river, now a quiet, gently flowing stream, enters the Lake of Ontario at Lewiston. The drop between Lakes Erie and Ontario is 32 ft. The edge of tea-growing districts of the province. the Horse Shoe Fall is receding to the Other products are wheat, cotton, extent of 5 ft. each year. It is berice, and indigo. The province is lieved that the original Falls were at mountainous in the W., reaching an Lewiston. The Government Reser-

vations, on both sides of the Falls, from various well-known lays and have been turned into fine parks. The little steamer Maid of the Mist goes close up to the Falls, and it is possible, though rather dangerous, to walk under them. One of the best points of view of the fine Horse Shoe Falls is from the railway track, and observa-tion cars are run, and the trains are stopped for some minutes for the benefit of tourists. The Falls were discovered in 1678 by a French priest, but his description was laughed at as a traveller's tale. For the last twentyfive years the water has been used for industrial purposes, many manufacturing plants being worked by its power. This withdrawing of the water for commercial use is beginning to tell, and a depletion of the volume of water over the Falls has been noticed lately. Many thousands of tourists visit the Falls every summer. Many thousands of The sight is even more wonderful in winter when the gigantic Falls are in the grip of frost and snow, and huge icicles hang glistening in the sun-shine. Three bridges span the river. The view from the suspension bridge is magnificent, whilst the fine culverer bridge is a triumph of modern engineering.

Niam-Niam, or Azandeh, a race of negroid stock, who formerly inhegrou stock, who formerly in-habited the region lying between the Congo and the Upper Nile, now known as the Welle and Ubangi districts in the N. of the Belgian Congo, Equatorial Africa. They are allied to the Nubas; have a dark reddish skin, oblique eyes, and gener-rally round features. They practise cannibalism, and are somewhat in-clined to obesity. The women do the work and attend to the cultivation of their crops, while the men engage in raiding expeditions and hunting. They are fond of music and show an aptitude for wood-carving and the fashioning of pottery. The kingdom of the N., which flourished for over two centuries, was destroyed by an Arab invasion, since when the inwere dispersed. habitants Schweinfurth's Heart of Africa, 1873, and W. Junker's Travels in Africa, 1890-92.

Nias, a Dutch island, off the W. coast of Sumatra, with an area of 2100 sq. m. Its surface is mountain-Rice, cocoa-nuts, bananas, pepper, tobacco, and sugar are grown. Pop. 250,000.

Nibelungenlied, or Der Nibelunge Not, an old German epic poem embodying stories and traditions which were current in Germany before the writing of this poem, which dates from

poems, but probably from a more or less connected account of the 12th century, and according to some authorities, from Latin poems also. The story relates how Siggfried, son of the King of the Netherlands, and the possessor of the treasure of the Niblungs, wins as his wife Kriemhild, the lungs, wins as his whe Erremmin, the sister of Gunther, King of the Burgundians. For the latter he obtains the hand of Brünhild, Queen of Iceland, by causing him to be successful in three trials of strength. This he accomplishes by wearing a magic cloak, and thus being invisible beside Gunther. Some years after, Brünhild, Gunther's wife, brings about the murder of Siegfried by means of Hagen, who by treachery finds out the hero's vulnerable spot and slays him. He afterwards secures the treasure which has become the property of Kriemhild, and buries it in the Rhine. The widow finally accepts the hand of Attila (Etzel) King of the Huns. She then induces Gunther and Hagen to visit her court, and they with members of their train are slain at the instiga-tion of Kriemhild, who had always vowed vengeance on Hagen. She herself. however, is also slain at the end of the conflict, which is a scene of awful slaughter. The *Klage*, a poem written about the same time as the N., deals with the lament of those who survived the destruction. The chief editions of the N. are those of C. Lachmann and K. Bartsch, 1880; while there are English translations by A. G. Foster-Barham, 1887, and Margaret Armour, 1897; see also Everyman's Library. Nicea, a city of ancient Bithynia, in Asia Minor, on the castern shore of Lake Ascania. It was built by Antigonus, the son of Philip, in 316 B.C., and named Antigonea, but the name was changed by Lysimachus to N. in honour of his wife. N. was of great importance under the Roman and

Byzantine emperors, having fine streets and monuments. In ecclesi-astical history it is noted as the scene of two councils: the First Œcumenical Council was held here in 325 A.D. to discuss among other things the Arian question and the Meletian schism, and to fix the date of Easter, whilst the Seventh Ecumenical Council, held here in 787, discussed mainly the question of image worship. N. was also the name of Nice (q.v.).

Nicander, Karl August (1799-1839), a Swedish poet, born at Strenguss, and educated at the University of Upsala. In 1820 he published his first volume of poems, and by his powersome time near the beginning of the ful tragedy Runcsrardet (The Runic 12th century. Itsauthoris not known, Sword), he won a foremost place but he drew his materials not only among his literary contemporaries. He also wrote Runor (The Runes), Enzio, 1825, and The Death of Tasso. for which he was awarded a medal by the Swedish Academy. After a tour in Italy in 1827 he published Memories

of the South.

Nicaragua, a republic of Central America, between the Caribbean Sea and the Pacific Ocean. Area 49,200 sq. m. There are lagoons, estuaries, and swamp lands along the Caribbean and swamp lands along the Caribbean Sea, but rocky coast on the Pacific Ocean. Chief harbours are Cornito, Brito, and St. Juan. In 1894 the Mosquito coast was annexed. The Cordillera de los Andes, a volcanic range, crosses N. Coseguina (3835 ft.) and El Viejo (6267 ft.) being the highest carried Caribbean Graph Park highest summits. Capital of republic. Managua; other important towns are Granada, Leon, and Grey Town. Pis-Pis mining district is on the Segovia R. Two large lakes, the Managua and Nicaragua, are situated in Central N.; the latter is 100 m. long, area 2900 sq. m. It is the largest sheet of water between Lake Michigan, U.S.A., and Lake Titicaca on the Peruvian border. Towards the St. Juan the depth is only 8 ft. owing to vast accumulations of silt brought down by the Rio Frio. There are five rapids on the St. Juan R., which greatly impedenavigation, Education is free and compulsory. There are two universities, but comparatively few secondary or normal schools. Coffee, bananas, rubber, and hides are the chief products. There are rich un-developed mineral resources, but gold is mined on the Caribbean coast. The climate is tropical except on the high lands. The government consists of a president, appointed every six years, and one chamber of 36 members appointed for a similar period. 600,000.

Nicaragua Canal. In 1884 a treaty was made between the governments of U.S.A. and Nicaragua with the object of cutting a ship canal to link up the Atlantic and Pacific oceans. The canal was begun at Greytown in 1889, and its total length would have been about 170 m. including Lake Nicaragua and the San Juan R. Less than 30 m. would have had to be Operations were, howexcavated. ever, suspended in 1893, and attention was directed to the Panama Canal, whose last barrier was blown away by dynamite in Oct. 1913, and the waters of the Pacific mingled with those of the Atlantic. The N. C., though it would have been a longer route, presented fewer difficulties in the way of natural barriers and fewer gigantic rocks to engineer and blast. The scheme was abandoned owing principally to the political unrest of

the country.

Nicaria, Nikaria, or Kariot, an island of the Greeian Archipelago, 12 m. from Samos. It is associated with the Greek legend of Icarus, who is supposed to have met his death near here after his aerial flight.

Nicastro, a com. of Italy in the prov. of Catanzaro, 16 m. W.N.W. therefrom. It is a bishop's sec. There is a ruined castle in which Frederick II. was confined. Pop 18,000.

Niccola Pisano (1206 - 78).

PISANO.

Niccolini, Giambattista (1781-1861) an Italian poet and dramalist, born at San Giuliano, Tuscany. N.'s first poem, *Peste de Livorne*, appeared in 1804. From 1807-8 he was secretary and professor of history and mythology at the Florentine Academy of Fine Arts. His first dramatic work was the tragedy of Polissena (1810). followed by Ino e Temisto, Edipo, and Medea. His first political drama, Nabucco, appeared in 1815; another invective against absolute power is Antonio Foscarini (1827), the most popular of all his dramas, although Arnoldo da Brescia is his literary masterpiece (Epg. trans. by Garrow. 1846). See his Opere edite e inedite, by Gargiolli, 1863-80; also monographs by Barelli, 1888; Ostermann, 1900; and Leoni, 1901.

Niccolo, Alunno (c. 1430-1502), see ALUNNO, NICCOLO.

Nice (ancient Nicaa, It. Nizza), a seaport and episcopal see of France, cap, of the dept. of Alpes Maritimes s m. S.W. of Monaco, at the mouth of the Paglione. The city is sheltered on the N., but is exposed to the *Libeccio*, a moist S.W. wind, and is occasionally visited by the mistral, the sirocco, and the tramontane. It has, nevertheless, a delightful climate, supposed to be particularly beneficial to gout and chest complaints. The number of visitors in winter is seldom less than 15,000 and has reached 45,000. In the centre of the town is a high hill (318 ft.), on which the castle, destroyed by the Duke of Berwick (1706), formerly stood. The fashionand residential quarters lie to the W. Along the shore and round the base of the hill stretch fine promenades. The chi-Roman

Gothic c (1835), the municipal casino, art gallery, and observatory. To the E. of the hill is the harbour and port. There is a large coasting trade, and the chief exports are flowers, oranges, lemons, perfumes, wines, liqueurs, soap, and tobacco. The inhabitants execute fine inlay work in olive wood, and also manufacture art pottery. The ancient town of Nicea was founded by the Phocæans from

viky) over the Ligurians. In the 2nd century R.c. it fell into the hands of the Romans. In the 9th and 10th centuries A.D. it was more than once sacked by Saracen invaders, and was plundered by the Turks (1543). From 1388 until 1706 (save between 1600 and 1691) it belonged to Savoy, from 1706-13 to France, then it was in the possession of Savoy until 1744, reverting to France and Spain in that year. From 1792-1814 it was in the county of N., France; it then belonged to Sardinia until 1860, in which year France finally over it. It is the baldi, Masséna, It is the

painter. Pop. (19... sult Tisserand, Histoire civile et Re-ligieuse de la Cité de Nice, 1862; Nash, Guide to Nice, 1844; Durante, His-toire de Nice, 1823-24; Fervel, His-Histoire de Nice et des Alpes Maritimes depuis 21 si/cles, 1862; Home, Along

the Rivieras of France and Italy. 1908.
Nicene Creed, the only creed of the
Churchwhich has received commenical sanction, was drawn up at the Council of Nicrea in 325 A.D. (see Arrus). It was in the form familiar to Westerns in the Roman Mass and the Anglican Communion service, but terminated at the words 'And I believe in the Holy Ghost.' It was re-affirmed at the Council of Constantinople (381), and the rest of the creed, as we have it, was then added, with the excep-tion of the words filioque and the Son.' For this, see CREED.

Nicephorus (c. 758-828), patriarch of Constantinople (806); defended the worship of images against the Iconoclasts, and was consequently banished to a convent in Asia by Lee the Armenian (816 A.D.). He wrote Chronographia Brevis and Breviarium Historicum, also several other historical works. He is numbered among the saints of both the Greek

and the Roman Church. Nicephorus I., Emperor of the East from 802, a native of Seleucia, who became lord high treasurer under the Empress Irene, whom he subse-Various conquently dethroned.

of Bardanes and Arsaber, he completely. He made a trea Charlemagne, but in a war with the Christmas rejoichnes. Saracens and Bulgarians was surprised and slain in 811.

Nicephorus II. (c. 912-969), Emperor of the East from 963-969. In 960-963, in a brilliant series of campaigns against the Saracens, he captured Candla and Aleppo, the devotion of the army, .

him emperor in 963. He cicilia and reduced most

Massalia (Marseilles) and so called but was less successful in the West. in commemoration of a victory (Gk. | He was assassinated by his wife and nephew.

Nicephorus III. (Botaniates), Emperor of the East from 1078-81. He revolted from Michael VII. in 1078 and marched upon Nicrea. His elec-tion was supported by Alexius Commenus, who helped him to defeat his rival, Bryennus, but who finally quarrelled with N. and stirred up the army to depose him.

Niceron, Jean Pierre (1685-1738), a French compiler, born in Paris. His chief work is his series of literary biographies Mémoires pour servir à des hommes illustres de la ue des lettres, avec un catalogue

de leurs ouvrages (49 vols., 727 and 1745.

Niche (Fr. niche, It. nicchia, probably from mitulus, sca-mussel), a cavity or recess sunk in the wall of a building. It was generally used for the reception of a statue, vase, etc., and was most often semi-octagonal or semi-hexagonal in shape, although the Roman Ns. were semi-circular. The heads were formed of grooved vaulting, and the Ns. were ornamented with pillars, consoles, architaves, etc., according to the prevailing style of architecture.

Nichol, John (1833-94), a British author, born at Montrose. While at Oxford as a coach he formed, with Albert Venn Dicey, Thomas IIII Green, Swinburne, and others, the Old Mortality Society in 1856-57. In 1862 he was appointed professor of English literature at Glasgow. 1865 he visited America, and wrote a historical review on American literature for the Encyclopædia Britannica ture for the Encyclopæala Britannica (1882). Among his other works are: the drama Hannibal, 1873; Death of Themislocles, 1881; Byron, in the English Men of Letters Series, 1880; Burns, 1882; and Carlole, 1892. Nicholas, Saint (d. 326), the patron saint of Russia and a native of Patern in Lycia. He is encycly

Patara in Lycia. He is specially honoured as the guardian and patron of children and of scholars, as also of travellers, by sea and land, and merchants. Í.

the Greek

in the Santa Claus of

Nicholas, the name of five popes

and one anti-pope. Nicholas I., sometimes called the

Great, succeeded Benedict III. in 858. He was the strongest pope between Gregory I. and Gregory VII., and his

in connection with the " arch, Ignatius of Conie divorce of Lothnir,

King of Lorraine, and with the right of bishops to appeal to Rome against the verdict of their metropolitan, as exymplified in the case of Rothad of Sosson. Nicholas L died in 867. Nicholas II. was pope from Dec.

1018 to July 1061; he was personally of very little account, and owed his importance to the counsel and influence of Mildebrand (whose policy of reform he pursued). Cardinal Hum-

bert, and Bishop Boniface of Albano. Nicholas III, was pope from Nov. 1217 to Aug. 1280; he was a good politician, and strengthened the papal power in Italy, but incurred the

accusation of nepotism. Nicholus IV. was pope from Feb. 1288 to April 1292; a member of the

1000 scribes and scholars. During his pondificate, in 1449, the resignation of the antipore, Felix V., put an end to the papal schism. The fall of Contemporary temporary is antinople in 1453 was a great blow pretensions of social democracy, and the direction of extending the direction of the direction of extending the direction of to him.

Nicholas V. was antipope in Italy from 1328 to 1330 during the pontificate of John XXIII, at Avignon. He resigned in 1330, having been excommunicated by John in 1529, received pardon for his sins, and was been in housewells in pricepopent in kept in honourable imprisonment in

the papal palace until his death in 1533. Nicholas I. (1796-1855). Russian emperor from 1825 till 1855, the third son of Paul I., was born at St. Poters-burg. He visited England and Europe in 1816, and in the following year married the eldest daughter of Frederick William III. of Prussia. On the death of Alexander I., he succeeded to the throne, as Constanting the real bein had abdicated stantine, the real heir, had abdicated in his favour. Owing to some uncertainty, however, there was an interregnum of three weeks' duration, and a serious and long-prepared military conspiracy broke out. The insurgents relied too much on their comrades joining them, and N. was able to put down the rising with cruel firmnes. During the early part of his reign some reforms were carried out, out N. soon reversed to the autocracy of the old czars, supported by the force of arms. The wars with Persia and Turkey ended in victory for Russia (1828), and the crushing of the Poles was accomplished, but they were accompanied by a terrible loss of men, as was the Crimean War later. He was exceedingly stern and harsh when crossed, but had a strong sense of duty.

Nicholas II. (b. 1868), present Emperor of all the Russians, eldest son of Alexander III., whom he succeeded in 1894, and nephew of the late King Edward VII. of Great Britain; born at St. Petersburg. As crown prince and president of the Trans-Siberian Railway, travelled in the Far East. In 1896 visited France and followed up the understanding between that country and Russia by between that country and Russia by signing definite military agreements with President Faure. In 1899, inspired by traditions of the Holy Alliance, he brought about the convention at the Hague of the first International Peace Congress. accession to the throne marked the transition from the extreme autoransition from the externa anomalies of the externa anomalies was the extraction of heresy by crusades.

Nichilas V. was pope from March 1455; he was a man of deep learning, and employed over of the people to share in matters of 1000 scribes and scholars. Turing his

especially in the direction of extending the principle of 'zemstvos' or local elective assemblies to the provinces. Left St. Petersburg for a year in 1905 during the 'Liberator crisis of that year and the reverses in the war with Japan as a result of a shot from a saluting battery on a ceremonial occasion endangering his life. His visit to Cowes in 1909 enhanced the better understanding between the Russian and British people which began with the establishment at St. Petersburg of an Anglo-Russian Chamber of Commerce in 1908.

Nicholas I. (b. 1841), King of Montenegro, was born in the village of Niegush. In 1860 Nicholas was proclaimed Prince, and in 1862 took part in the war between Montenegro and Turkey. In 1900 he took the title of Royal Highness, and in 1910 that of King, in accordance with a petition from the Skupshtina. He is the descendant of along line of fighting men. but his talents as a statesman are of no mean order; his rule may be de-

an account of the late war with itikey, see Balkan War.

Nicholas of Damascus (c. 74 B.C.), a Greek historian, poet, and philosopher, born in Damascus. While still a boy he composed tragedies which were performed at Damascus. He was the friend and possibly secretary of Herod, King of Judea, whom he accompanied to Rome in 13 B.C., when he won the favour of Augustus. Among the works attributed to him, besides the collection of tragedies and comedies, are a History of Assyria; Lives of Augustus and Herod; History of the World; Book of Principles; Book of the Soul.

Nicholas of Hereford (fl. 1390), a Lollard preacher and author, born probably in Hereford. A close friend and supporter of Wickliffe, he was condemned and excommunicated by the church council in 1382 for his support of the Lollard doctrines. An appeal to the pope against his sentence led to his imprisonment in Rome. He escaped, but was captured in England. In 1391 he recanted, and after holding several offices under the Crown retired to a monastery. He aided Wickliffe in his translation of

the Bible.

Nichols, John (1745-1826), born at lington. When thirteen he was Islington. placed with William Bowyer, the printer, to whose business he succeeded in 1777. In 1782 he published Biographical and Literary Anecdotes of William Bowyer and many of his learned Friends

Processions of Q and, in 1797, Manners and Times in Engla

works of which he was either author led the great expedition to Syracuse: or editor amounted to fifty-seven. The Gentleman's Mayazine passed into his hands in 1778, and continued under his direction until his death.

Nicholson, Henry Alleyne (1844-99), an English biologist, born at Penrith, Cumberland. In 1871 he became proseveral works on fe

Nicholson, John general. In 1841 defence of Ghazri tinguished himsel

defence of Ghazri
inguished himsel,
mately captured and imprisoned at
Kabul. He was rescued by General
Pollock after some months' incarceration. He became adjutant of his
regiment in 1843, and two years later
regiment in 1843, and two years later
regiment in process, and by the wet method. In regiment in 1843, and two years later was given an appointment in the commissariat. He saw active service on

were invaluable. On Sept. 14, 1857, he commanded the main storming party in the assault on Delhi, but was mortally wounded. There is a biography by L. J. Trotter, 1897.
Nicholson, William (c. 1782-1819),
the 'bard of Galloway,' born in Kirkcudbrightshire. He became a peclar, and wrote verses on his wanderings The preface to his Tales in Verse and Miscellaneous Poems, descriptive of Rural Life and Manners (1814), acknowledges his indebtedness to Hogg. His best poem is The Brownic of Blednoch, a folk-lore ballad.

Nicias, a famous Greek painter, son of Nicomedes, born at Athens, and flourished probably between 350 and 300 B.C. According to Pliny, he was employed by Praxiteles to colour marble statues. Among his chief works were: 'Necromantia Homeri,'

Calypso, 'Diana, and Hyacinthus.' Nicias (c. 470-414 B.C.), an Athenian statesman and general, belonging to the aristocratic party. was several times a colleague of Pericles in the stratagia, and on the death of the latter became leader of the aristocrats, and opposed Cleon. Prior to the Sicilian expedition he achieved a number of minor successes, and in 421 took a prominent part in the Peace of Nicias, which ter-minated the first part of the Pelo-War. In 418 he was In 418 he was

commanders in the naval against Slelly; after the Melbiades, was practically mmander. In 415 B.C. he

but the enterprise terminated in disaster, and he was put to death by the Syracusans. He contributed largely to the downfall of Athens. See Plutarch's Life of Nikias, 1887.
Nickel (symbol Ni, atomic weight

58.7) is a metal resembling iron. The comberiant. In 1871 he became property of the property of Toronto, in 1874 professor of biology in Durham College of Science; from 1875-82 professor of natural history at St. Andrews, and in 1882 at Aberdeen. He published several works on formal property of the property works on formal property of the property works on formal property of the property works on formal property with the published property works on formal property with is mined at Noumea. in Canada. In this ore the metal appears to be present as pentlandite (FeNi)S. Garnierite (indefinitely which is mined at Noumea.

edonia, is another source of d. In Europe the metal is from Kupfer-nickel (nickel

the furnace method the ore is alternately roasted and melted, as in many occasions, notably during the the case of copper (q.v.), to remove second Sikh War. His promotion was iron and sulphur, and then heated rapid, and at the outbreak of the with charcoal when the metal is ob-Mutiny he was brigadier-general. His tained. In the more modern process services during that troublous period a matte of the sulphide is obtained,

which is refined in a Bessemer converter and then treated with charcoal (NiD+C=Ni+CO).The carbonyl process discovered by Dr. Mond depends on the fact that freshly reduced nickel combines with carbon mon-oxide below 150°C. to form nickel car-bonyl, Ni(CO). The ore is roasted, re-duced at 400°C, by the action of water gas, and then exposed in chambers at 80°C. to the action of a current of CO. The carbon monoxide leaves the chambers charged with nickel carbonyl, and is carried through tubes heated to 180°C. At this temperature the carbonyl is decomposed, the nickel is deposited in the tubes, and the carbon monoxide can be used over again. In the wet method the roasted ore is treated with hydrochloric acid, and the solution obtained is diluted with bleaching powder and milk of lime to precipitate iron and arsenic. The nickel is finally obtained as oxide by adding milk of lime, and the oxide is reduced with carbon. The metal thus obtained is generally brittle, due to occluded carbon monoxide, and this is got rid of by adding per cent. of magnesium or aluminium. The pure metal is lustrous and white like silver. It is ductile, mallcable, hard, and tenacious, and tarnishes in moist air. Its melting point is about 1450° C., it has a specific gravity 8'8, is magnetic, and is a fair conductor of electricity. Nickel is used largely for electroplating steel and iron articles, but is of most importance in its alloys. is used extensively for coinage in an alloy with copper (German silver). Nickel silver is an alloy of nickel with zinc, iron and copper. By adding tungsten to German silver, platinoid resistances are made for low resistances in electrical work. Nickel steel, owing to its hardness, is used for armour plates and construction of vessels. The steel contains 3-3.5 per cent. of Ni and about 0.3 per cent. of carbon. Addition of 3 per cent. of Ni to steel is said to increase the life of firebox stays and boiler tubes made from it. Nickel only forms a single series of salts, derived from the oxide The monoxide is a greenish powder, obtained by heating the car-bonate or hydroxide out of air, and is dissolved in acids yielding the common green salts. It is used for giving the soft brown colour to pottery. Ni₂O₂, the black oxide, behaves like a peroxide with HCl and H₂SO₄, yielding the ordinary salts of nickel with elimination of chlorine and oxygen respectively. The salts of nickel are green in colour, have a sweetish, astringent taste, and are used as emetics.

Nickel Plating, see METALLURGY. Nickel Silver, see GERMAN SILVER.

Nicker, in Teutonic mythology, is a water-spirit, which appears in the form of a grey horse with its hoofs reversed on the seashore. The legend is that if any one mounts the horse it gallops away and plunges into the sea with its burden. There is, however, a means of taming this animal and making it work. See Nix.

Nicobar Islands, a British group of nineteen islands in the Bay of Bengal, between 6° 45' and 9° 15' N. and 93° and 94' long., between Sumatra and the Andaman Is., and under the same administration as the latter, islands, of which only twelve are in-habited, have an aggregate area of about 635 sq. m. There are two groups Great and Little N., and several others to the S., and Car N., Camorta, and the remainder to the N., separated by Sombrero Channel, 36 m. broad. Great N. is the largest island, with an area of 333 sq. m., and Car N. (49 sq. m.) is the most densely populated (4000). The best harbour is Nan-cowry, formed by Camorta and Nan-cowry. The cocca-nut is the principal grown, though betel nuts. The fauna of the are also found. islands include monkeys, bats, flyingfoxes, tree-shrews, many varieties of birds and reptiles, and also of butterflies and insects. The inhabitants are a Far Eastern race, and speak varieties of the Non-Amman group of languages; their appearance is somebut what repulsive, the capacity of the best of them (natives of Car N.) is considerable. The religion is a form of animism; there is a Church of England missionary station the supervision of native under Indians.

Nicol, Erskine (1825-1904), a Scottish painter, born at Leith. He lived in Ireland from 1845-9, and returning to Edinburgh was elected a member of the Scottish Academy. In 1862 he best of which are seenes of Irish life and customs, include: 'Among the Old Masters,' Both Puzzled,' Paying the Rent,' The Trio,' and 'Intersections the Masters,' The Trio,' and 'Intersections and 'Intersections' an ing the Rent," The T

Nicol, John Pringle (1804-59), an astronomer, born near Brechin, and studied theology at King's College. Aberdeen. In 1835 he was appointed professor of astronomy at the Glasgow University, having given up the study of theology for science. He wrote: Architecture of the Heavens; Solar System; and Dictionary of Physical Sciences.

Nicolai, a tn. of Silesia, Prussia, 110 m. S.E. of Breslau, with iron foundries. Pop. 8366. Nicolai, Christoph Friedrich (1733-

1811), a German author and publisher, born at Berlin. In his youth he was a

friend of Lessing and Moses Men-privy councillor. He wrote fables, delssohn, and in conjunction with epistles, elegies, narrative poems, etc. the former he established the famous Briefe, die neueste Literatur betreffend. Gradually he began to attack the romantic movement and critical school, and foolishly misrepresented the new movement of ideas repre-sented by such great thinkers as Goethe, Schiller, Kant, and Herder. His works include: Description of a Trip through Germany and Swilzer-land; Anecdotes of Frederick II.; and a rationalistic novel, entitled Sebal-dus Nothanker. See Göckingk's dus Nothanker. See Göckingk's Nicolais Leben, 1820. Nicolai, Otto (1810-49), a German

musician and operatic composer, born at Königsberg. From 1841 to 1847 he was first kapellmeister of the Court Opera at Vienna, and was the founder of the Philharmonic concerts there. He produced several operas, all suc-cessful; the best known of which are The Merry Wives of Windsor, and

Il Templario.

Nicolaitans, an heretical sect twice named in the book of Revelations (ii. 6 and 15), where we learn that their works were hated of the Lord and the Ephesian Church, but tolerated and avowed at Pergamos. They are accused of sharing the teaching of Balaam, 'who taught Balak to cast a stumbling block before the children of Israel, to eat things sacrificed to idols, and to commit fornication." They seem, indeed, to have been an antinomian Gnostic sect, excusing themselves by St. Paul's doctrine of Christian freedom. There are references to them in early church writers-such as Ireneus, Tertullian, and Clement of Alexandria—and these writers frequently connect them with It has been Nicholas the deacon. suggested by some writers, however, that the sect did not exist, the reference in Revelations being merely allegorical.

Nicolas, Sir Nicholas Harris (1799-1848), a famous English antiquary and biographical writer, born in Corn-

wall In 18? the Heralds

Museum.tant of his

torica, Proceedings and Ordinances of the Privy Council of England, De-spatches and Letters of Lord Nelson, Life of Chaucer, History of Agincourt, and an unfinished History of the British Navy.

Nicolay, Ludwig Heinrich Freiherr, Baron (1737-1820), a German poet, born at Strassburg. In 1769 he became preceptor to the Grand Duke Paul, later Emperor of Russia, and was afterwards appointed a director of the Academy of Sciences at St. Petersburg. In 1801 he was made a the German Constitution.

Sec P. von Gerschau, Aus dem Leben des H. L. Nicolay, 1834. Nicole, Pierre (1625-95), an eminent

French theologian and philosopher, born at Chartres. In 1644 he graduated from the University of Paris. He was a prominent member of the institution of Port Royal and an intimate friend of Arnauld. His most important work is a collection of treatises called Moral Essays and Theological Instructions. He wrote a Treatise on Human Faith and The Perpetuity of Faith in the Catholic Church concerning the Eucharist, the last in conjunction with Arnauld.

Nicolet, a tn. of Quebec, Canada, in

the co. of Nicolet, 20 m. N.E. of Montreal. Pop. 2600. Nicoll, Robert (1814-37), a Scottish poet, born at Auchtergarvan, Perthshire. First poems printed, 1835. Edited Leeds Times, from 1836, successfully: but chiefly remembered as Had his life not Scottish minstrel. been cut short, would probably have attained great distinction. Sec P. R.

Drummond, Biography, 1884. Nicoll, Sir William Re Robertson (b. 1851), a Scottish author and critic, born at Lumsden, Aberdeenshire. From 1874 to 1877 he was Free Church minister of Duftown, and later of Kelso. He then came to London and edited the Expositor and British Weekly, which he continues to edit, together with the Bookman, established by him in 1891. His publications include : Literary Anecdotes of the Nincteenth Century, Letters on Life, Life of James Mardonnell, Life of Ian Maclaren, Emily Bronle, Songs of Rest, Professor Elmslic, The Church's One Foundation, The Expositor's Dictionary of Texts, etc. He also edited the complete works of C. Bronte, the Expositor's Greek Testament, and numerous theological works.

Nicol's Prism, sec Polarisation of

LIGHT. Nicolson, Sir Arthur (b. 1849), an English diplomatist. In 1870 entered the Foreign Office, two years later assistant private secretary to Earl Granville, 1874-76 third secretary to embassy at Berlin, 1876-78 second secretary to the legation at Pekin. 1879-84 second secretary at Constan-10/19-84 second secretary at Constantinople. Has since been charge d'affaires at Athens and Teheran, consul-general at Budapest, agent in Bulgaria, minister in Morocco, ambassador extraordinary and plenipotentiary at Madrid, and ambassador to Russia 1905-10, since then permanent. Under-Secretary for Economy manent Under-Secretary for Foreign Affairs. Has published a History of

Nicolson, William (1655-1727), an i English prelate and antiquary, born in Cumberland. He occupied the sees of Carlisle and Derry, and finally rose to be Archbishop of Cashel in Ireland. His principal work was the Historical Library, consisting of English, Scot-He also tish, and Irish sections. wrote many sermons and antiquarian papers, and contributed a Glossarium Collec-

B.O.), a was the

nised by Amyntas II., King of Mace-

donia.

Nicomachus of Thebes (fl. c. 400 B.C.), a celebrated Greek painter, son of Aristodemus (q.v.), whose pupil he became. He is one of the most remarkable of the painters of antiquity. His skill is praised by Cicero, and he was renowned for his rapidity of execution. Among his principal works were ' Apollo and Diana.' ' The Rape

of Proserpine,' and 'Tynderidæ.

Nicomedes, the name of the first kings of Bithynia: Nicomedes I. began to reign in 278 B.C., and founded the great city of Nicomedia. He died c. 250 B.c. Nicomedes II. was sent by his father, Prusias II. as a hostage to Rome, where he found favour with the Roman senate, and later dethroned and killed his father and became an ally of the Romans. He died about 90 B.C. Nicomedes He died about 90 B.C. Nicomedes III., son of the preceding, succeeded his father in 91 B.C. He also was an ally of Rome, but was defeated and driven from his kingdom, which was, however, subsequently restored to He died in 74 B.C., leaving no issue, and Bithynia passed to the Romans.

Nicomedia, anancient city Bithynia, Asia Minor, the site of the modern Ismid, at the N.E. corner of the gulf of that name, an arm of the is the scat of

id the abode . Constantine, Pop. about

30,000. See ISMID.

Nicopolis (Bulgaria), see NIKOPOLI. Nicopolis (Gk., 'city of victory'), an ancient city of Epirus, Greece. It was situated on the Gulf of Arta, and was founded by Octavian to com-memorate his victory at Actium in 31 B.C. Many Roman antiquities are to be seen on the site.

Nicosia, a tn. of Sicily, in the prov. of Catania, 14 in. N.E. of Castrogiovanni. The surrounding district is Nicosia has an altitude of nearly 3000 ft., and possesses a fine cathedral and several churches. Pop.

16,000.

island of Cyprus and a Greek archbishop's see, near the centre of the great plain of the island, 25 m. N.W. of its port, Larnaca. The town presents a quaint, old-fashioned aspect, but is poor and mean. It has interesting memorials of former Venetian rule in the shape of its ancient cathedral and bastion walls. Textile goods and leather are the principal manufs. Pop. 16,500, mostly Turks. The British High Commissioner lives here

Nicot, Jean, Sieur de Villemain (1530-1600), a French diplomatist, Villemain born at Nîmes, where he received his early education. He afterwards went to Paris to complete his studies. 1560, during the reign of Henry Il .. he was sent as ambassador to Lisbon. On his return from Portugal he introduced the tobacco plant into France (hence the name nicotine). N. was the author of Historia Francorum and Le Trésor de la langue française.

Nicotera, a tn. of Italy, in the prov. of Catanzaro, 35 m. N.N.E. of Reggio.

Pop. 9000.

Nicotera. Giovanni, Baron (1828-94), an Italian statesman, born at He took part San Biase, Calabria. in various movements of a revolutionary nature, fighting in Calabria and Rome, and in 1857 was taken prisoner at Sanza and condemned to the gallows. He was, however, set free in 1860 by the revolutionists and joined Garibaldi. Seven years later he commanded an expedition against Rome. In the parliament of the new kingdom of Italy he took a foremost part, and was at all times a supporter of Victor Emmanuel. He was Minister of the Interior in the first Crispi cabinet, under Depretis (1876-77), and again in 1891-92, under

Rudini. Nicotiana, a genus of plants (order Solanacee), a number of which are grown in the garden as half-hardy annuals. N. alba, the sweet-scented tobacco plant, bears panicles of white

funnel and star shaped flowers. tabacum is the tobacco plant of

commerce.

Nicotianin, the volatile oil to which tobacco owes its flavour. It contains four alkaloids: nicotine, nicotimine, nicoteine, and nicotelline.

Nicotine $(C_{10}H_{14}N_2)$, an alkaloid found in the leaves of the tobacco plant in the form of the malate and citrate. It may be prepared by extracting the oil from the leaves with citrate. boiling water, mixing it with milk of lime. treated

treated tracted

less oil, but rapidly turns brown on exposure to air. It boils at 241° Nicosia, or Lefkosia, the cap, of the and readily dissolves in water and alcohol. It has a pungent odour, similar to that of a foul tobacco pipe. N. is exceedingly poisonous, a few drops in the stomach being sufficient to cause death, while in grain has been known to cause symptoms of poisoning.

Nictheroy, cap. of the state of Rio de Janeiro, Brazil, and an English residential suburb of Rio, on Rio de Janeiro Bay. The manufs. are woollen and cotton goods, soap, tiles, tobacco, and spirits. Pop. 35,500.

Nictitating Membrane, or Third Eyelid, a structure well developed in birds, reptiles, some amphibians, and 'n mammals,

rudimentary

It is a thin semi-transparent membrane, which is drawn from the inner canthus obliquely upwards and backwards over the cornea. In birds it is most highly developed, being moved by two muscles, the bursalis and pyramidalis, both derived from the retractor bulbi and supplied by the abducens nerve. In reptiles there is only one muscle, the bursalis; in tortoises and crocodiles the attached tendon develops into a second muscle, the structure resembling that of birds.

Nidderdale, a picturesque vale of Yorkshire, situated in the W. Riding, traversed by the Nidd, which issues from the base of Whernside, and after a generally S.E. course empties into the Ouse near York.

Niddry, a vil. in the par. of Kirkliston, N.E. Linlithgow, Scotland, 14 m. N.N.E. of Broxburn. Niddry Castle is famous as the place where Mary Queen of Scots spent the night following her escape from Loch Leven.

Nidwalden, see Unterwalden. Niebuhr, Barthold Georg (1776-1831), a German statesman and historian, born at Copenhagen, son of the traveller, Karsten N. In 1810 he be-came royal historiographer and professor at Berlin, and by a course of lectures on Roman history estab-

and great work on the topography of ancient Rome by C. C. von Bunsen and E. Platner (1773-1855). He resigned the embassy in 1823 and sottled at Bonn, where he spent practically the whole of the remainder of his life. Here he

volumes were translated by Hare and Thirlwall, and the third (bringing the narrative down to the end of the first Punic War) by Smith and Schmitz. See Hensler's Lebensnachtrichten, and

Eissenhart's B. G. Nichuhr, 1886. Niebuhr, Karsten (1733-1815), a German traveller and author, born a Lüdingworth, Hanover. In 1761 he joined an expedition sent out by the King of Denmark for the scientific exploration of Egypt, Arabia, and Syria. He returned in 1767 as the sole survivor. In 1778 he accepted a position in the civil service of Holstein and went to live at Meldorf. The result of his travels appeared in his Beschreibung von Arabien by Reisebeschreibung von und andern followed by Arabien Lündern (1774-78), and Reisen durch Syrien und Palästina (1837). See Life by his son, B. G. Niebuhr (1817), Eng. trans. 1838, by Mrs. Austin, in the Lires of Eminent Men.

Niederhasslau, a vil. of Germany, in Saxony, 2 m. S.S.E. of Zwickau.

Pop. 6474.

Niederplanitz, a vil. in kingdom of Saxony, Germany, 2 m. S.W. of Zwickau. Pop. 12,363. Nieder-Schöneweide, a tn. of Bran-

denburg, Germany, on the Spree, 5 m. S.W. of Berlin, Pop. 7259.

Niederschönhausen, a tn. of Prussia prov. of Brandenburg, 4 m. N. of Berlin; has an ancient royal residence. Pop. 15,573.

Niederwald, a mountain ridge in the Prussian dist. of Wiesbaden, crowned by the German national monument (erected in 1883) in commemoration of the re-establishment of the empire. It is on the r. b. of the Rhine, opposite Bingen, between Rudesheim Assmannshausen, and has an elovation of about 1150 ft. above scalevel, 900 ft. above the Rhine. The summit is approached by a cog-wheel railway.

Niel, a com. of Belgium, in the prov. of Antwerp, 9 m. S.W. therefrom.

Pop. 8100.

and

Niel, Adolphe (1802-69), a French marshal, born at Muret, France. He odern | Rome served in Africa, and distinguished himself at the capture of Constantine uring in 1837. In 1849 he was engaged in in 1837. In 1849 he was engaged in the siege of Rome; took the Malakhoff near Sebastopol in 1855, and three years later published Siège de Sebastopol. He again distinguished himself in the battle of Solferino, 1859, when Napoleon III. made him marshal. N. was appointed Minister of War in 1867. of War in 1867.

of the remainder of his file. Here he of War in 1867, re-wrote and published the first two Neilo Work (It. nigellum, diminuvolumes of his Roman History, and tive of Lat. niger, black), the name delivered lectures on the French Revolution, geography, ethnography, ornamenting a polished metal surand ancient history. The first two face by filling in inclsed lines with a

black metallic amalgam, which has he joined Monsieur Daguerre in his been practised from very early times, work.

up to the present day. The method is:
Nierembergia, a genus of hardy and briefly as follows: The design required is drawn upon the article with (order Solanacce), some of which are a graving tool, a solution of borax of creeping habit sand are valuable for applied to serve as a dux, and the the rock garden. They need an amalgam shaken over it: it is then abundance of moisture.

Nierembergia, a genus of hardy and are the rock garden. They need an amalgam and fresh proglem added as.

Nierembergia, a genus of hardy and heated and fresh amalgam added as heated and fresh amalgam added as required. The surface is then scraped smooth and polished. The amalgam the Rhine, 8 m. 8, of Mainz. The is made up of silver, copper, and lead, town is specially noted for the Nicronstand of the Rhine is added; steiner wines. Near by is a sulphur when brittle it is pounded up and placed in quills. The earliest speci-mens of N. W. date from Roman times, and from then until the practised in various countries, whilst

great measure by N. W.
Nielsen, Yngvar (b. 1843). a Norwegian writer, born at Arendal.
Among his works are: a Guide to
Norvay, which has been translated
into English; Norges Histoire efter
1814, 1885-91; Freden of Kiel, 1886;
and Der Vering von Moss und die
Schwedisch-Norgeische Linion 1895 Schwedisch-Norwegische Union, 1895. He was director of the ethnographical museum at Christiania in 1878, and became professor at the university there in 1890.

Niembsch (or Niemsch), Nikolaus von Strehlenau, see Lenau, Nikolaus, Niemcewicz, Julian Ursin (1757-1841), a Polish scholar and statesman, born in Lithuania. He served for a short time in the army and became acquainted with Kosciusko, with whom he was taken prisoner at the

1794, and d President mmittee in

of Vienna. are the most popular, but he also wrote: The Return of the Deputy, a comedy; John of Tenerum, a novel in the style of Scott: and a History of the Reign of Sigismund III. (3 vols.), 1819.

Niemen River (Russia), see Memel. Niemes, a tr. of Bohemia, Austria, on the R. Polzen, 42 m. N.E. of Prague. It has manufs. of cloth. linen, bentwood furniture, and vine-

gar, and contains a castle of the Counts Hartig. Pop. 6247. Niepce, Joseph Nicophore (1765-1833), a physicist and an inventor of

steiner wines. Near by is a sulphur spring. Pop. 4031. Nietzsche, Friedrich Wilhelm (1844-1900), a German philosopher. aristocratic Polish ex raction, he was 16th century the art was continually born at Rocken, near Lil zen, his father being a clergyman. After a in Russia and India it has survived brilliant university career at Bonn to the present time. The invention and Leipzis he was appointed at the of printing from engravings on metal age of twenty-four, professor of Greek plates was undoubtedly suggested in at Bâle. This post he resigned in great measure by N. W. 1879 owing to ill-health, reviring on Mielsen, Yngvar (b. 1843), a Nor- a pension of £120. In 1889 he went mad, and after remaining so for eleven years, he died a' his mother's house in Naumburg. To these few biographical details must be added (for it is the key to much in his philosophy) the fact that his life was one long struggle against sickness; neuralgia and insomnia being its principal manifestations. N.'s philosophy can be expressed in a few words. He regarded humanity as being composed of two types fundamentally different from each other; the weak and the strong, the slavish and the masterful, the mob and the aristocratic few. In the struggle between these two types each would naturally seek to impose its morality on the other and to de-preciate these qualities in its oppo-nent that are dangerous to it. Thus compassion, extension, Because the weak commend the qualities of meekness and poverty and renuncia ion. Christianity (which, as N. significantly cornstantly (which, as is, significantly points out, arose among the slave population of Rome) extelled this slave morality, he was opposed to it and proclaimed himself Au ichrist. He would revalue all values in the light of the morality of the strong. And for mankind he held up the ideal of surpassing Itself, the need for creating a higher, stronger, and more dominant race, the Ucbermensch, the Superman. These ideas are set forth with much powerful eloquence in his many Counts Hartig. Pop. 6247.

Counts Hartig. Pop. 6247.

Niepee, Joseph Niephore (1765-1833), a physicist and an inventor of photography, born at Chalôns-sur-Nieperateur of Nico, whon he returned to his native place and circeted his energies to chemical research. In 1811 he turned his attention to lithography, and in 1829 in Oulline and Aphorism (Foulls).

the prov. of Hanover, on the Weser, 30 m. N.W. of Hanover. The chief industries are the making of glass. spirits, and biscuits, and the manufacture of manures. 2. A tn. of Germany, in the duchy of Anhalt, on the Saale, 20 m. from Magdeburg. There are sugar factories, iron foundries, breweries, and tanneries. Pop. 5573.

Nieulandt (Nieulant, Nieuwland, Nieuwelandt), Willem van den (1585-1635), a Dutch landscape painter. born in Antwerp. He established himself at Amsterdam, where he was much employed in painting views of the ruins of ancient architecture in the vicinity of Rome, from the designs he had made during a residence in Italy. He etched in all about sixty plates of landscapes and ruins.

Nieuwer Amstel, a com. of the Netherlands, in the prov. of N. Hol-land, 5 m. S.W. of Amsterdam. Pop.

Nieuwland, Pieter (1764 - 94), Dutch poet and mathematician, born near Amsterdam. He was professor

at Utrecht, occupied the chair of natural philosophy at Amsterdam, and in 1792 became professor of mathematical and physical science at Leyden. His Poésies hollandaises (1788) contain some fine pieces, among which may be mentioned the poem Orion and the elegy on the death of his wife. His scientific works include Almanach nautique, with Van Swinden; Dissertations sur la con-struction des octants de Hadley et sur la détermination des longitudes en mer par les distances de la lunc au soleil et aux étoiles fixes, 1788; Discours sur les moyens d'accélérer l'art noutique, 1789; L'art de la navigation, 1793,

Nieuwpoort, a tn. and watering-place of Belgium, in W. Flanders, on the Yser, 10 m. S. of Ostend. Good bathing is obtained, and the cod and herring fisheries are important. Pop.

3500. Nieuweld, a mountain range of Cape of Good Hope, S. Africa, between lat. 32° and 33° S., with an elevation of 7000 ft.

Nièvre, a dept. of Central France, formed mainly out of the old province

of Nivernais with a part of Orléanais. It belongs to the basins of the Loire and Seine, and has an a sq. m. The surface is ru E., comprising part of t mountains of the Morvan, mountains of the Morran,
highest point within the
is Préneley (2700 ft.), but
where the calcarcous formations predominate, the highest point is 1400 ft.
Forests cover large areas, but much land is given over to pasture and the cultivation of forage, the fattening of the cover that part it is French.

Nieuburg: 1. A tn. of Prussia, in cattle and the rearing of sheep and horses being important agricultural industries. The chief cereals are oats and wheat, but potatoes are largely cultivated. Vines are grown in the valley of the Loire and in the neighbourhood of Clamecy, the white wines of Pouilly being famous. The principal mineral is coal, which is found in the neighbourhood of Decize, and the chief manufactures are iron and steel at Guérigny, Fourchambault, and Imphy. The capital is Nevers. Pop. 314,000.

Niewo Diep Harbour, see HELDER. Nigdeh, or Nigde, a tn. of Asia Minor, in Konia, 68 m. N.N.W. of

Adana. Pop. 20,000. Niger, or Quorra (Kwara, Kowara, etc.), an important river-system of W. Equatorial Africa, ranking next in size to the Congo and the Nile. It rises in the country of the Mandingos, about 150 m. from the coast, and flows N. and N.E. toward- the Sahara, then S.E. and S., finally entering the Bight of Benin in the Gulf of Guinea by an enormous delta (14,000 sq. m. in area), which extends nearly 150 m. inland. Its chief stream, the Tembi, is joined by the Tamincono and the Falico, all rising in the mountainous region of N.E. Sierra Leone. Lower down, at its confluence with the Tankisso, it is called the Bahaa or Joliha. At Bammaku in Bambarra it becomes navigable for steamers, and after passing Sansanding it divides into several arms, enclosing divides into several arms, encousing extensive islands. From Kahara (port of Timbuctu) it passes along the desert towards the frontiers of Houssa, and is called the Kwara, Kioora, or Mayo, and further S. the sea or lake of Nupo (Nyffe). The N's chief left-bank tributary, the Benue or Chadda (n.r.), joins it opposite Lokoja, and being navigable from Adamawa affords communicafrom Adamawa affords communica-The Bussa tion with the interior. rapids, in which the explorer, Mungo Park, was drowned (1805), are below the junction of the Sokoto and the N., 1 than thôse The chief s the Nun es are the Sombrero, Opobo, etc. Total length about 2600 m.; area of basin 600,000 sq. in. forests form the chief vegeemarkable delta region. was explored by Mungo and 1805), the Middle

Niger, Gaius Pescennius, governor of Syria, was a Roman of equestrian rank. He was chosen emperor by the troops in 193 A.D. on the death of Commodus; but, failing to march on

Rome at once, was intercepted by Severus, a rival claimant. Three battles were fought, resulting in the defeat of Pescennius, who fied towards the Euphrates. He was captured and

put to death, 194 A.D.
Nigeria, a territory of British W Equatorial Africa, about 333,000 sq. m. in area, extending between the Lower Niger and Lake Chad. Its boundaries were settled by various agreements with Germany (1893) and France (1898). The Anglo-French agreement (1904) and the Convention (1906) fixed as the N. boundary French Sudan from Barua on Lake Chad to the Niger, 10 m. N. of Illo. The W. boundary is the French territory in Dahomey, S. come the Gulf of Guinea and the Atlantic, and E. the German Kamerun and Adamawa and the region stretching up to Lake Chad. The country is usually divided into the delta region (swampy and unhealthy and abounding in mangroves), the forest region (very hilly in parts), and the plateau region in the centre, where the climate is much drier. Grain is extensively grown, and the Bassia Parkii (sheabutter tree), cotton, and indigo are extensively cultivated. Tornadoes and cyclones are met with in the N. and N.E., and the 'hamattan' blows Malaria, leprosy, from the Sahara. and ophthalmia are common diseases. Pop. about 17,750,000. Since for administrative purposes the country is divided into the districts of Northern and Southern N., it will be convenient to treat the trade, mineral products, industries, etc., of these districts separately.

Northern Nigeria.—The Protectorate of Northern N. was constituted (Jan. 1900) over territories which belonged before to the Royal Niger Co., Ltd. (incorporated 1886). It includes the old Fulah empire, with its Hausa states, and the territories of Bornu, Kano, and Sokoto were acquired 1900-3. There are

See Thomson, Mungo Park and the rawa, Muri, Yola, Bauchi, Bornu, Niger, 1890; Mockler-Ferryman, Up the Niger, 1893; Leonard, The Lower Lower Niger and most of its large Niger and its Tribes, 1906; Trotter, tributary, the Benne, lie in this The Niger Dotta' in Proc. R. G. S., Gando, Sokoto, Kano, Bida, Bauchi, Dec. 1888; Barth's Travels and Discoveries in Niger and Central Africa, iv.-v., 1857-58; Lenfant, Le Niger Zungeru on Kaduna R. There are wiv.-v., 1903; Boyd Alexander, From the Niger to the Nile, i., 1907.

Niger, 1890; Mockler-Ferryman, Up Kano, and Zaria. The Bonue, lie in this Canonic State of the Niger and Central Africa, in the Niger and Central Africa, in the Niger to the Nile, i., 1907.

Niger, 1890; Mockler-Ferryman, Up Kano, and Zaria. The Nider and to the line from the Sample and Lower Niger and most of its large region. Among the chief towns are Gando, Sokoto, Kano, Bida, Bauchi, The Bonne, I come Niger and most of its large region. Among the chief towns are grand. The Niger and Maifoni. The government headquarters are at iv.-v., 1903; Boyd Alexander, From the Niger, Gaius Pescennius, governor butter, etc., being grown. Palmcorn, wheat, ground-nuts, shea-butter, etc., being grown. Palm-kernels and oil, indiarubber, cotton, Palmivory, drugs, capsicums, gums, bal-sams, indigo, hides, and tobacco are also produced. There are salt and soda deposits in Bornu province. Iron ore, tin, and silver are found besides. Citrons, limes, oranges, datepalms, pomegranates, mangoes, and other fruits flourish. The Niger Co., Ltd., carry on most of the trading, banking, and mining operations of the country. They also superintend the working of the forests, and the tobacco and other plantations. The military force is composed of the 1st and 2r Infantry

Frontier

Yorubas), numbering about 3600. There are 177 European officers and non-commissioned officers. A light railway runs from Baro on the Niger to Zungeru, Zaria. and Kano, and connects at Minna with the Southern Nigerian Railway, opened 1909, from Lagos to Jebba, and extended later. Palm-kernels, palm-oil, indiarubber. rum, and hides are some of the chief exports. The revenue (1910-11) amounted to £274,989, excluding £70,000 contributed from Southern N., and an imperial grant of £275,000. The expenditure was £565,760. Area about 256,400 sq. m. Pop. about 10,000,000.

Southern Nigeria,-The old colony

and protectorate of Lagos and the protectorate of Southern N. were united as the Colony and Protectorate of Southern N. by Royal Letters Patent (1906), with Lagos as the seat of government. The protectorate of government. The protectorate contains three provinces—Western or Lagos province (including the 'colony'), Central province, and 'colony'), Eastern pr Eastern province, and occupies the whole of the delta region. There are resident officers at Ibadan and elsewhere in the interior, and a European commissioner at Abeokuta in the Egba government. The headquarters of the Central province are at Warri, of the Eastern province at Calabar. The chief ports include Lagos, Burutu, Forcados, Degema, Bonny, Opobo, and Calabar. Other important towns are Badagri, Jebu Ode, Ondo, Shaki, Benin City, Onitsha, and Brass. The were acquired 1900-3. There are and Calabar. Other important towns thirteen provinces (each under its are Badagri, Jebu Ode, Ondo, Shaki, own president): Sokoto, Kontagora, Benin City, Onitsha, and Brass. The Nupe, Illorin, Kabba, Bassa, Nassa- Niger Coast Protectorate (tormed

is another cable station at Bonny. There is a weekly mail-service be-tween Liverpool, Forcados, and Calabar, via Lagos. The military force here is composed of the Southern Nigerian regiment of the W. African Frontier Force. Hardware, earthenrronuer Force. Hardware, earthen-ware, textiles, and tobacco are among the imports, palm oil and kernels, ivory, rubber, and gum arabic among the exports. The revenue (1910-11) was £1,956,176, the expenditure £1,717,259. The present governor and commander-in-chief of the whole of N. is Sir F. Lugard (1913). The fauma and flora of N. are interesting and deserve The of N. are interesting and deserve some mention. Lions, leopards, ele-phants, giraffes, a kind of buffalo, hyenas, antelopes and gazelles, camels, monkeys, and snakes are found. The rivers contain numerous varieties of fish, while the crocodile, the rhinoceros, and the hippopotamus are also common. The tsetse-fly and mosquitoes infest the coast districts maguitoes infest the coast districts majority of these plants bear showy and all the delta region. The birds white flowers, and those that are include ostriches, bustards, birds of their texture such that they are conlawks), snipes, qualis, partridges, spicous in the lighter hours of the ducks, widgeon, and teal, and many varieties of paroquets, pigeons, geese, etc. Among the chief trees are different kinds of palm (notably the coil-palm, Elwis guneensis; the date-oil-palm, Elwis guneensis; the date-oil-palm, Elwis guneensis; the date-oil-palm, Elwis quineensis; the date-oil-palm, Elwis quineensi oil-palm, Elwis guineensis; the date-palm, Phænix dactylifera; and the Doum-palm, Hyphæne thebaica), the gambier, the baobab, shea-butter, and locust trees, and the tamprind. In the drier regions mimosa and out and emitting a penetrating but acacia bloom freely. Mangroves are very sweet odour. In some plants trict and form its peculiar vegetation. The vast number of tribes in N. Other familiar garden Ns. which reprevents any detailed account, but a few of them may be mentioned. I samines, the tree of sadness, the Among the coast-tribes are the Jekri, Ijos, Ibos, and Aros; to the S.E. round Calabar dwell the Efiks, Ibibios, and Kwas. The Hausas and

Nigeria

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Night
about 1844), known till 1893 as the
Oil Rivers Protectorate, formerly held
sway in this region. There are rubber,
cocoa, coffee, and cotton plantations.
Palm-oil, palm-kernels, copal, ivory,
gum, fruits, hides, and grains are produced. Much mahogany is exported.
Calabar, Oloke-Aleji, and Onitsha all
have botanical stations. The chief
native industries are eleghted that the administrative unification
weaving, beadwork, included the content and canoe-building. The chief
native industries are eleghted that the definition of the N. are much higher
races than these coast-dwellers.

Other tribes are than Yorache in the Northern N.
In the Ny or of the N. are much higher
races than these coast-dwellers.

Other tribes are the Yorachums,
Munshi, Okpotos, Berberi or Kanuri,
and Yorubas. From practically every
point of view it must be conceded
that the administrative unification
is not only desirable but necessarily
bound to be effected before long,
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in the way. For a Night Rudard 1896, Nigeria, 1909; Johnston, Colonisation of Africa, 1899; Keltie, The Partition of Africa (2nd ed.), 1895; Morel, Affairs of West Africa, 1902; Partridge, Crow River Natives, 1904; Lady Lugard, A Tropical Desertance, 1905; Larrymore A Resignation. 1904; Lady Lugard, A Tropical Dependency, 1905; Larymore, A Resident's Wife in Nigeria, 1908; Hazzledine, The White Man in Nigeria, 1904; Leonard, The Lower Niger and its Tribes, 1906; Calvert, Nigeria and its Tin-fields, 1910; Falconer, Geology and Geography of N. Nigeria, 1911; Annual Reports; and Nigeria, Our Latest Protectorate (London), 1900. Niger Territory (French), see SENEGAL, UPPER, and NIGER. Noctiflorous Night-blooming or are plants which have Plants

adapted themselves so as to gain the fertilising services of moths and a few other nocturnal insects. All of them are strongly scented and most very fragrant, and on that account are valued in the garden. The majority of these plants bear showy 'obacco plants

confined to the swampy coast distinction for a number of nights, trict and form its peculiar vegetation. but others open and fall in one night.

flowers and

British nightjar. See GOATSUCKER. Night He

genus of bird of very wide most active species, N. griscus alone visits Britain, but its nearest breeding quarters are in Andalusia and Hun-gary. Attempts, however, are being made to reintroduce the species to Holland. The nests are made in trees near water; the eggs, from three to and are elongated and pointed at both ends. The bird is 23 in. long, beautifully and its plumage is

and its plumage is beautiful; coloured, the back being greenish-olive and the breast wine colour; long white plumes are borne on the head. This bird is held sacred in China. Nightingale (Daulias or Molacilla luscinia), the most famous of the warblers, or indeed of any song birds. The male bird arrives from Northern Africa in the middle of April a few days before the female, going almost invariably to the woods and copses which have always been the haunts of its species; but the distribution is very local, being confined to the southern midland counties, and though sometimes found in the W. The N.'s song on a calm night in May or June has a perfect setting; but it is impossible to exaggerate the beauty

the finest : Contrary to can be hear night-time.

the ground, of dry grass and leaves, and in it are laid four to six olive-green eggs. The male's song continues until the young are hatched. The female is slightly smaller than the male, but exhibits no definite distinction of plumage. The upper parts are chestnut-brown; the long rounded tail is reddish brown, and the breast is dull greyish white, tint-ing to brown. The food is mainly composed of caterpillars, other in-sects, and small worms; but fruit is sometimes eaten. The winter migration is begun as early as July, and is completed before the end of August. Ns. are sometimes kept in captivity, but need much careful management. thrush philomela, the N. of Eastern Europe, is a louder but not such a sweet songster. The Indian N. is Kittacincla macroura.

Nightingale, Florence (1820-1910), the reformer of hospital nursing, born of a good family at Florence. While of a good family at Florence. quite young, she did much philan-thropic and social work in England, and in 1844 visited many hospitals and reformatories in Europe. In 1851

Nighthawk, another name for the tion of the Protestant Deaconesses at ritish nightiar. See GOATSUCKER. Kaiserswerth, on the Rhine, and on her return to England devoted herself to the Governesses' Sanatorium in connection with the London Inconnection with the London Institute. At the beginning of the Crimean War the wounded soldiers suffered so terribly from the inefficiency of the nursing department that Florence N. volunteered her services and sailed with thirty-four nurses in 1854. Her self-sacrificing services to the wounded made her name famfive in number, are pale in colour ous throughout Europe. She wrote several pamphlets on nursing, and a fund, whose interest amounts to £1400 per annum, was raised for the purpose of training nurses, now carried out at St. Thomas's and at King's College Hospital. See *Life* by Miss Tooley (1904).

Nightjar, see Goatsucker.

Nightmare, or Incubus, a condition which is characterised by an abiding sense of discomfort and uncasiness, occurring in the midst of a disturbed sleep. In ancient times and in the middle ages this state was believed to be produced by demons which the Romans called 'incubi,' but it is now generally associated with the taking of a heavy meal or of indigestible food before going to sleep. A closely allied condition, however, is apt to be met with as a consequence of brain exhaustion in those who are overworked either by application to study or in the pursuit of business. Nervous people are the most susceptible of its melody, combining as it does to nightmare, and especially is this the case with regard to children, who experience dreadful night terrors after a day of unusual excitement or fatigue or after partaking of some indigestible food. Children suffer in this way should be guarded from becoming over-excited or overfatigued, and should not be allowed to eat any food for several hours before going to bed. They should also have a tonic treatment, and live in the open air as much as possible. Aperient medicine should be given to unload the liver and bowels, and mustard foot-bath before going to bed will often prove of material assistance.

Nightshade, a name given especially to a number of plants of the order Solanaceæ. The deadly N. (Atropa belladonna) is the most dangerous of British poisonous plants. Every part of the plant has the poisonous principle, atropin (q.v). The berries are large and black, and, except for the persistent calvx, resemble cherries; they are often mistaken for an edible fruit by children with fatal results. It is a stout, erect plant, 3 or 4 ft. tall, with large ovate leaves she trained as a nurse at an institu- and solitary drooping bell-shaped

Nigra

flowers, purple in colour; happily it is of the 19th century, however, the not common. Frequently mistaken for it are the woody N., or bittersweet (Solanum dulcamara), a common twining plant in hedges with drooping clusters of purple flowers with yellow anthers, and the black N. (S. nigrum), a small upright plant with drooping white flowers with yellow anthers. These also are poisonous, and frequently cause loss of livestock. chanter's N. is Circae lutetiana (order Onagraceæ).

Nigra, Constantino, Count (1827-1907), an Italian diplomatist, who carried on the traditions of Cavour for more than forty years, was born in Castelnuovo, Torea Italy, and studied law at the Turin University. At the outbreak of the Austrian War (1848) he enlisted as a volunteer, and in the battle of Rivoli was severely wounded. In 1851 he entered the diplomatic service and became secretary to Cavour, whom he accom-panied on several diplomatic missions. He was for many years minister plenipotentiary in Paris, then am-bassador in St. Petersburg (1876), London (1882), and Vienna. He edited popular Italian songs, edited He the correspondence of Cayour and Comtesse de Circourt, and was an authority on the Gaelic language and

literature. Nigritia, see SUDAN. Nihilism (Lat. nihil, nothing), as a philosophic term is as old as the twelfth century, and may be said to signify that sceptical attitude of mind which denies everything, even exist-ence. In recent times, however, N. has come to stand for an amorphous body of social and political discon-tent which manifested itself among the Russian educated classes. the fact that in so far as N. was given a political direction it aimed at a reconstruction of society on a communistic basis, and as in order to attain that end Nihilists have not scrupled to use the most violent means, N., in the popular mind, has became a synonym for anarchism (q.v.). But the great bulk of Nihilists in Russia take no part whatever in the political struggle, and are content to devote their energies to such matters as education, the raising of the status of women, etc., and to making known their ideals through the channels of literature and art. During the last

term was a useful one under which to class all rebels against a reactionary and oppressive autocracy. struggle between the police and the Nihilists has been marked on the one hand by vigorous, rigorous, and often extra-judicial repression, working by means of secret police, courts-martial, imprisonment, Siberian exile, and the gallows, and on the other hand by robbery of banks, etc .- euphemistically termed 'expropriation'-assassinations and other methods of terrorism, all planned by secret terrorism, all planned by secret cocieties. Side by side with this has societies. come a very strict censorship of books and newspapers, which has been to some extent met by the copious out-pourings of secret printing presses. Thus the history of N. has largely become the history of modern Russia. The most notable assassination of the Nihilists is that of Tsar Alexander II. by bombs on Morch 13, 1881. See Stepniak, Underground Russia, and Nihilism as it is; Prince P. Kropot-kin, Memoirs of a Revolutionist, and The Terror in Russia. See also RUSSIA-History.

Nijni

Niigata, an open port of Hondo, Japan, 160 m. N.W. of Tokio. Tea is grown throughout the district, and there is a large junk trade, but being obstructed by a sand-bar the harbour is not entered by European craft. The production of petroleum has been developed, and there is a large manufacture of lacquer-ware. Pop. 62,000.

Nilhau, one of the Sandwich Is., situated to the W. of Kauai, from which it is separated by the Strait of Kaulaka. Area 120 sq. m. Pop. 21,000. Nijar, a tn. of Spain in the prov. of Almeria, on the R. Artal, about 6 m. from its mouth. Wheat, fruit, and olives are grown; and lead, iron, and manganese are obtained in the district. The manufactures are woollen and cotton goods and porcelain. Pop. 15,000.

Nijkerk, or Nykerk, a tn. of the etherlands in the prov. of Gelder-Netherlands in the prov. of Gelderland, 18 m. N.E. by E. of Utrecht. Pop. 8528.

Nijni-Novgorod, or Nizhniy Novgorod: 1. A gov. of Central Russia, situated on both banks of the Volga, two-Volga, twothirds being on the right and one-third on the left. The surface is mostly flat, with forests, marshes, and decade or two the term N. has be lakes, with limestone hills in some come more and more obsolescent, for the polities of the modern Russian of progressive tendencies may be a Constitutional Democrat, a Socialist, an Anarchist, and so forth. In the latter half important. There are machinery and cutlery works, tanneries, flour mills, naph ha distilleries, etc., and a considerable trade in manufactured articles, corn, flour, hemp, etc. Ship-building is also carried on. The government is divided into eleven government is divided into eleven districts. The chief towns, besides the capital N., are Pavlovo and Pochinka. Area 20,000 sq. m. Pop. 1,999,300. 2. A city of Russia, cap. of the above prov., situated at the confluence of the Oka and the Volga, 276 m. by rail E. of Moscow. Its position is excellent from a commercial point of view, as cereals and manufac-tured articles from the Oka basin, metal goods from the Kama basin, tea from Siberia, and corn, salt, naphtha, cotton, etc., for transit on the Volga, must all pass through the The city may be divided into citv. three parts, the upper town, the lower town, and the fair town. upper town contains the Kremlin, situated at the height of 400 ft on the right bank of the Volga; it is surrounded by a high wall, and has the principal edifices, including the governor's palace and two cathedrals. On the left bank are monasteries and an old church. The lower town is the commercial quarter, and contains many warehouses, depositories, etc. On the flat sandy peninsula between the Oka and the Volga, connected with the town by a wooden bridge, the great fair is held. The quarter contains 3000 shops, whilst as many more are built at fair time. N. is the chief centre of steamboat navigation on the Volga, and has manufactures of ropes, candles, and machinery, and distilleries, potteries, and flour mills; ship and steamboat building is also carried on. The trade of the city is more important than the manufactures, and the celebrated Makarievskaya, or fair, which is held here from July 29 to Sept. 10, is a most important event, as the operations which are carried out influence all the leading branches of Russian manufacture. The corn and salt trade of Siberia and Turkistan. in tion on the Volga, and has manufactrade of Siberia and Turkistan, in particular, depends upon the condition of credit which the merchants obtain there. About 400,000 people visit the fair, which has been held at N. since 1817, and the business transacted there has been valued at

Nike

\$36,000,000. Pop. 92,273.

Nike (Gk. \(\vec{\kappa}_{\ell}\)), in Greek mythology, the goddess of victory, and according to Hesiod, the daughter of Pallas and Styx, by whom she wassent to fight on the side of Zeus against the Titans. She is generally represented as winged, and with a wreath and a palm-branch. As herald of victory she also has the wand of Hermes. Niksa

Nikki, a tn. in Borgu, Africa, about

Niksar

Nikki, a th. in Borgt, Africa, about 200 miles N.N.E. of Abomey.
Nikko, or Hatsiisi, a th. of Hondo, Japan, 80 m. from Niigata. It is one of the chief religious centres of the country, and is much visited on account of its famous temples and the sepulchres and sanctuaries of the first and third shogun of the Tokugawa dynasty.

Nikolai, see NICOLAI.

Nikolaistad, or Vasa, chief th. of the gov. of Vasa in W. Finland, on the Gulf of Bothnia, 327 m. from Helsingfors. It was rebuilt after the great fire of 1852. It has a considerable export trade. Pop. 20.000.

Nikolas of Cusa, see Cusa.

Nikolayev, a tn. and the chief naval station of Russia, on the Black Sea, 41 m. N.W. of Kherson. There are immense shipbuilding yards, and a floating deal. for the in high his lips. N. has also strong the life of the machinery the life of the life of the machinery the life of manufactures soap, tobacco, vinegar, carriages, and agricultural implements. It is the chief port for the export of cereals from the most fertile governments of S.W. Russia. Pop. 95,400.

Nikolayevsk: 1. A tn. of Russia in the gov. of Samara, on the Irgiz. There is trade in cereals, the principal industries being agriculture and the breeding of livestock. Pop. 13,000. 2. A tn. of E. Siberia in the maritime prov., on the Amur, 23 m. from it-entrance into the Pacific. It importgrocery, spirits, and manufactured goods. Pop. 8500. 3. A tn. of Russian Poland. See Sosnowiec.

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Nikoleburg, or Mikulov, a tn. of the control of Vorgant, 26 m. S. of Brain. It have don't which control of the cont

Dietrichstein-Mensdorff, which contains a very fine library. The preliminary treaty of peace between the Prussians and Austrians was signed here in 1866. The principal industries are viticulture and the manufacture of cloth, but there is also trade in lime and limestone. Pop. 8300. Nikopol, a tn. of Russia in the gov. of Ekaterinoslav, on the Dnieper.

Pop. 8000.

Nikopoli, or Nicopolis, a fortified tn. of Bulgaria, on the Danube, 24 m. N.N.E. of Plevna. The town was the scene of the defeat of Sigismund and his hosts in 1396 by Bayezid I., and was captured and burnt by the Russians under Krüdener in 1877. chief industries are tanning and fishing. Pop. 6000.
Nikosia, see Nicosia.
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the vilayet and 60 m. N. of the tn. less than a mile in Nubia to as much of Sivas. Close by is the village of as 12 m. in Upper Egypt, and it is Bezirie, where St. Chrysostom died

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1908). added to the title by Knowles at the end of the last century. Although he practised his profession with success for many years, Knowles' intellectual activities always roamed far beyond into the fields of theology, metaphysics, and general literature, and as a comparatively young man he was persona grata in a circle of littéraincluded Tennyson, teurs which Lubbock Avebury), John (Lord Charles Pritchard, Manning, Ruskin, Bagehot, Huxley, Tyndall, Froude, Gladstone, and others; the majority of these being members of the Metaphysical Society, which was founded by Knowles and Tennyson in 1869, and of which Knowles acted as general secretary. His contact with this circle paved the way not only to the editorship of the Contem-

This pens of the above-named men. great literary, scientific, and political clientèle Knowles took with him to his new venture, the Nineteenth Century, with the new

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_ nis biographer Sir Sidney Lee (Dictionary of National Biography), the members of the Metaphysical Society continued to support Knowles. The power of the review in matters of public importance was amply demonstrated by the abandonment of the proposed Channel Tunnel Scheme of 1882 which, according to Gladstone, was the consequence of the imposing array of denunciatory articles in the Nineteenth Century. It continues to maintain a high level of critical power in matters appertaining no less to art than to politics, but especially social and economic Present editor: Mr. W. matters.

Wray Skilbeck. Nineveh, the ancient cap, of the Assyrian empire, was situated on a piece of land which lay between the rivers Husur, Gomal, Upper Lab, and Tigris. It occupied about 1800 acres, and formed a long narrow strip along the Tigris, pierced at right angles by the Husur. Of its origin nothing is certain; but it was probably founded from Babylon by Nimrod, along with Calah, Rehoboth-Ir, and Resen. mentioned by Khammurabi B.C.), and Shalmaneser I., 'zikati' inscriptions, about 1300

records his restoration of the ter of bу At the ter reign N.

The words 'and after were all this. He built a large palace.' the grandest architectural effort of Assyria,' and an arsenal for military supplies, laid out a fine park for hunting and as a pleasure ground, and erected a magnificent 'triumphal way' 62 cubits broad. He also conducted water from the hills by eighteen canals into the Husur, and distributed its waters round the moats into the ponds and tanks within the city. Besides this he made N. his court residence, and after the destruction of Babylon it was probably the finest and richest city of the East. Esarhaddon, however, did not make N. the metropolis of the empire; but Assur-bani-pal rebuilt the temples, and a palace for himself which was adorned with some beautiful sculptures, and contained a famous library full of the classics of Babylonian literature. After this, little is known of the fortunes of the city, except that it was captured by the Medes in alliance with the king of Babylon about The mound of Kurjunjik 606 B.C. marks the site of the palace of Sen-

nacherib and Assur-baui-pal.

Ning-po (Ning-po-fu, city of the calm waves), formerly Liampo, a treaty port and important trading city of Che-kiang prov., China, on Takia or Ning-po R., 16 m. from its mouth_opposite Chu-San, and 95 m. from Hang-chow. Manufactures include silks and other fabrics, gold, silver, and lacquered wares, carved wood, furniture, carpets, and confections. Tea, raw cotton, drugs, and straw goods are among the exports. Bamboos and rice are grown. are salt works and fisheries near by. The ruined Pagoda or Obelisk (T'ienieng-t'a) and the old Drum Tower are interesting buildings. N. contains numerous temples (e.g. that of 'the Queen of Heaven'), monasteries, schools, and clubs, and a fige library. It is noted as an important missionary centre. There was a Portuguese settlement from 1522-45. A British occupation took place in 1841-42, and in the latter year the port was opened to foreign trade by the Treaty of Nankin. It serves as a distributing Nankin. It serves as station for Shanghai. Pop. (1911) estimated at 350,000.

Ninian, Saint (d. 432?), a missionary u Strathelyde. I was ordained Picts by Pope ded the church ithorn, in Wig-

en built townshire, and dedicated it to St. a con- Martin of Tours. According to Bede, he preached Christianity to the Picts of all Southern Scotland as far N. as the Grampians. See Bede, Hist.

Ninon LENCLOS.

Ninove, a tn. of Belgium, in the prov. of E. Flanders, on the R. Dender, with manufs. of gloves, lace, and sewing-cotton. Pop. 8200.

Ninth: 1. An interval in music, which contains an octave and second. 2. It is also used of a chord which consists of the common chord. with the eighth advanced one note.

Niobe, the daughter of Tantalus, and wife of Amphion, king of Thebes, according to Greek legend. Her pride in her twelve children caused her, in Homer's story, to scoff at the god-dess Leto, as mother of Apollo and Artemis only; Leto's children slew N.'s with arrows, and the mother wept over them till she became a rock weeping incessantly. This rock is identified with an archaic figure carved out of stone on Mt. Sipylus near Smyrna. The famous group supposed to be by Praxiteles, or Scopas, has many partial copies in Florence.

Niobium, or Columbium, a metallic chemical element, symbol Nb or Cb, atomic weight 94. It is usually associated with tantalum, and occurs in the minerals tantalite, columbite, and fergusonite. The metal is obtained by reducing the chloride with hydrogen in a red-hot iron tube, or by reducing the oxide with carbon in the electric furnace. It is a steel-grey powder of sp. gr. 7.06, burns on heating in air, and is soluble in warm concentrated

sulphuric acid.

Niobrara, a river of Nebraska, U.S.A., rises in Sioux co. It joins the Missouri at N., after a shallow and rapid course of 450 m.

Nio Ios, an island of Greece, 92 m. S.S.E. of the south-eastern extremity of Eubœa, and forming one of the or kancea, and forming one of the group known as the Cyclades (a.v.). There is a good harbour on the western coast, where the chief town, los or Nios, is situated. The island is said to have been the burial place of Homer. Area 52 sq. m. Pop. 2000.

Niort, a city of France, and cap. of the R. E.N.E. Sèvre-Deux-Sèvres, on the Niortaise, 42 m. E.M Niortaise, 42 m. E.N.E. of La Rochelle. It possesses a noted church of the 15th century, and an old castle in which Madame de Maintenon was The manufs. are boots and gloves, and brushes. Pop. born. shoes, 23,00Ó.

Nipani, a tn. of British India in Bombay Presidency, 70 m. N.N.E. of Goa, with considerable trade. Pop.

12,000. Nipigon, a lake and river of Ontario, Canada, 30 m. N.W. of Lake Superior. The lake is 70 m. long and

Ninon de Lenclos (1616-1706), see the lake, and is the largest which flows into Lake Superior. It is noted for its

Nirvana

trout fishing.

Nipissing, Lake, a lake of Ontario, Canada, about halfway between Huron Lake and the Ottawa R. It is 50 m. long, 20 m. broad, and contains numerous islands. The Sturgeon R. enters it on the N., and the lake enters Lake Huron by the French R.

Nippon, Niphon, or Dai Nippon, the native name for the whole of the Japanese empire. It is used particularly of the principal island of

Japan—Honshiu.

Japan—Honsinu.
Nippon Yusen Kaisha (Japanese
Mail Steamship Co., Ltd.), the most
important steamship company of
Japan established in 1885. The Japan, established in 1885. The Mitsubishi Kaisha and the Yubin Kisen Kaisha lines were formed as early as 1871, the two amalgamating (1876) as the Three Diamonds Company. The government attempted to run another line, the Kyodo Unyu Kaisha (Union Navigation Co.). in 1882; but this, proving a failure, was amalgamated with the earlier Mitsubishi Kaisha (1885), the two being thenceforward known by the present name. In 1899 the Japanese Diet granted subsidies to the company's European and American lines. which carry the mails. During the war with Russia (1904-5) fifty-five transports were supplied by the Company, which now ranks ninth in point of tonnage among the world's twenty-one chief maritime com-panies. Services from Yokohama fortnightly to London and Antwerp, monthly to Melbourne (Australia) Victoria (British Columbia). and Steamers also visit Bombay, Shanghai, Vladivostock, New-chwang, Tientsin, and local ports, and Seattle for U.S.A. London offices, 4 Lloyd's Avenue, E.C. Fleet of over eighty vessels (aggregate tonnage about 321.750).

Nippur, or Niffer, was an ancient city of Babylonia, 100 m. S.E. of Bagdad. It was the seat of the worship of the Tumerian god, En-lil.

Niris, or Niriz, a tn. of Persia, in the prov. of Kerman, 10 m. S.E. of Lake

Niriz. Pop. 9000.

Nirmal, a fortified tn. of India, in the state of Haidarábád, and 118 m. N. of that city. Pop. 11,000.

Nirvana, the highest state spiritual attainment for the Buddhist. As in all transcendentalism, there is much difference in the conception of it among Buddhists and much miscon-ception in the Western mind. The individual passes through a cycle of existences or re-incarnations subject 50 m. wide, with a circuit of 580 m. to pain, anxieties, and all evil due It is exceedingly deep, and contains to 'desires;' and when these are exover 1000 islands. The river drains tinguished, put out, annihilated, N.

is attained. Nothing is predicated as upon him to secure a jury) as altered to future existence; it merely asserts in form by the Statute of Westminto future existence; it merely asserts freedom from the 'wheel of life.' See BUDDHISM.

Nisan, see Abib.

Nisard, Jean Marie Napoleon Désiré (1806-88), a French historian and critic, born at Châtillon-sur-Seine. In 1826 he joined the staff of the Journal des Débats, and later of the National. Under the empire he became inspector-general of education (1852) and director of the Ecole Normale (1857-67). He was elected to the Academy in 1850. His chief work was Histoire de la Littérature française, 1844-61; followed by Etudes d'Histoire et de Littérature, 1859-64; and Les Quatres Grands Historiens latins. 1875.

Niscemi, a tn. of Sicily, in the prov. of Caltanisetta, 30 m. S.S.E. there-

from. Pop. 15,000.

Nish, or Nis, a fortified garrison tn. of Servia, and cap. of the dept. of Nish, on the l. b. of the Nishava. Its position is important from a strategic point of view, for it lies at the convergence of several of the important Balkan high roads, and also at a rail-way junction. It is also a centre of commercial activity. There is a railway repairing factory, and an iron foundry. N. is the see of a bishop and

a royal residence. Pop. 22,000. Nishapur, a tn. of Khorassan, Persia, 44 m. S.W. of Meshed. Omar Khayyam was born and buried here. Pop. 15,000.

Nisi, a vil. of Messenia, Greece, 2 m. N. of the Gulf of Messenia, and 20 m. E.N.E. of Navarino, with quarian remains. Pop. 7000.

Nisi, Decree, see DIVORCE.

Nisibis (called Antiocha Mygdoniæ during the Macedonian rule), the cap. of ancient Mygdonia, N.E. Mesopo-tamia. It was taken by the Parthians in 149 B.C., and several times fell into the hands of Rome, being captured by Lucullus (68 B.C.), by Trajan (116 A.D.), and by Lucius Verus (165 A.D.). It was finally ceded by Jovian to the Persians in 363 A.D. village of Nisibin n. S.E. of Diabekr, Turkish The (10,000), 85 m. occupies the site. 85 m.

Nisi Prius (literally 'unless before '). When the judges sit at the assizes to try civil actions they are still said to be sitting at nisi prius, though the words nisi prius have lost their original significance. Nisi prius denotes no more at the present day than the commission by virtue of which judges are empowered to try civil causes at assizes. The words nisi prius originated in the writ of Venire Facias (a writ addressed to the sheriff of a county where a particular action was to be tried calling on the ground and impregnating the

ster II. to square with a prevalent practice by which inconvenience to jurors was avoided. Prior to this alteration, if jurors were summoned from any part of England whatso-ever, they were bound at least in theory to come up to Westminster (where the king's courts then were) and wait about until the case in which they were summoned came on. The result was that the inconvenience was partially mitigated by the practice of attorneys allowing the action to be pending in Westminster from term to term until such time as the justices were about to go on circuit to the particular county whence the jurors had been drawn, and then transferring the case to those justices as soon as it was certain they were coming. The Statute of Westminster II. provided that the writ of venire should contain words to the effect that the sheriff should command the jurors to come to Westminster on such a day in such or such a term, nisi prius (unless before) that day the justices appointed to take assizes should come into the county in which the cause of action lay. See also ASSIZES.

Nismes, see Nîmes.

Nitella, a sub-genus of the algæ order Characese, inhabiting pools and slow streams in which they are submerged, rooted to the bottom. N. exhibits the movement of the proto-plasm under the microscope better even than most of the other green algæ.

Nith, a Scottish riv., rising about 9 m. S. of Cunnock, Ayrshire, which flows S.E. about 60 m. to enter the Solway Firth 10 m. S. of Dunfries. Nithard (A.D. 790-844), a Frankish

historian. He was appointed abbot of St. Riquier, and met his death fighting for Charles the Bald. His dissensionibus filiorum Ludovici pii is a useful history of the Carlovingian empire.

Nithsdale, William Maxwell, fifth Earl of (1676-1744), supported the cause of the Jacobites in their rising of 1715. He was captured after the battle of Preston, imprisoned in the Tower and condemned to death. His wife devised a plot and secured his escape; he fled to Rome and joined the Elder Pretender. The story of his flight was written by the Countess of Nithsdale, and published in the Transactions of the Society of Antiquaries of Scotland.

Nitrates, see NITROGEN. Nitre, or Saltpetre, potassium nitrate (KNO₃); Chile saltpetre is sodium nitrate (NaNO₃). It is found upper soil in India and Persia; the sodium nitrate is found in Chile and Persu. The soil is lixiviated and the pure salt obtained by crystallisation. and perfuming purposes under the Potassium nitrate is used in the manufacture of gunpowder, sulphuric acid, and nitric acid, and in medicine as a diuretic and diaphoretic. The sodium nitrate is used for the manufacture of potassium nitrate and sulphuric and nitric acids, and as a manure.

Nitrian Desert, see NATRON LAKES. Nitric Acid, see NITROGEN.

Nitric Oxide, see NITROGEN. Nitrification, the process by which organic nitrogenous compounds in the soil are oxidised, the whole or greater part of the nitrogen being converted into nitrates, chiefly of calcium or potassium. It was believed to be a purely chemical process until 1877, when it was discovered to be due to the agency of minute bacteria. The process occurs in two stages, following the action of putrefactive bacteria which produce ammonium compounds; one type of bacteria oxidises these partly into nitrites, and another type completes the oxidisation into nitrates. An adequate supply of oxygen and water, darkness, a suitable temperature, and the presence of alkaline salts are essential to the process, which is the means by which plant foods are made available for the plants.

Nitriles, esters of hydrogen cyanide or prussic acid. They form a series which may be prepared by heating the alkyl halogen compounds with potassium cyanide. The lower members, as methyl cyanide, or acctonitrile (CH,CN), and ethyl cyanide, or propionitrile (C₂H₅CN), are colourless liquids with a somewhat pleasant odour, and are miscible with water. The higher members are insoluble. The N. have corresponding isomers known as isonitriles, carbylamines, or isocyanides. They are colourless

liquids of disagreeable odour. Nitrites, see NITROGEN.

Nitrobenzene (C₄H₅.NO₂), a nitrated derivative of benzene. It is usually prepared by slowly adding to ten parts of benzene a mixture of twelve parts of nitric acid of sp. gr. 1.45 and sixteen parts of concentrated sul-phuric acid at a temperature under 40°. The vessel should be kept moving so as to keep the various constituents in contact, and when all the acid has been added, the mixture is heated to about 80° for half an hour, and then cooled. The N. collects at the bottom of the vessel, and after separation is fractionated to eliminate benzene and dinitrobenzene. N. is a pale yellow oil with a strong smell of bitter almonds. It has a sp. gr. of Nitrogen, a non-metallic chemical 1.2 at 20°, and boils at 205°; it is element, symbol N, atomic weight

its poisonous nature.

Nitro-cellulose, or Gun-cotton, a compound formed by the action of nitric acid on cellulose. The chemical constitution of cellulose is itself a matter of doubt, and ordinary guncotton probably contains a mixture of nitrates, though CoH,O2(NO2), is usually given as the formula. N. was prepared by Schonbein of Basel in 1846 by the action of strong nitric acid on cotton. In the modern method, a mixture of concentrated sulphuric and nitric acids is employed; the idea being that the nitric acid is maintained in an anhydrous state in solution in the sulphuric acid, and that there is always sufficient excess of sulphuric acid to take up any water which may be produced during the reaction. Attempts were made to reaction. utilise gun-cotton as an explosive, but without success, until it was produced in the form of a colloid by the action of certain solvents, as acetone. (See CORDITE.) The lower nitrates of cellulose are used in the preparation of artificial silk and of celluloid. The danger arising from the inflammable nature of nitrated cellulose in films for cinematograph purposes has led to the employment of other cellulose compounds, with some measure of success.

Nitro-compounds, or Nitro-derivatives, those compounds which are formed by the action of nitric acid on aromatic substances. When an aromatic compound such as benzene is treated with nitric acid of sp. gr. 1.3 to 1.5 at ordinary temperatures, a mononitro-compound is usually produced; and, generally speaking, the more concentrated the acid and the higher the temperature employed, the greater will be the proportion of high nitrates. The product is in such cases a mixture of dinitro and trinitro derivatives. The concentration of the acid is usually effected by mixing the nitric with a larger proportion of concentrated sulphuric acid, which effectually absorbs the water produced in the reaction, and maintains the nitric acid in a concentrated condition. N. are for the most part yellow, stable, crystalline substances, only slightly soluble in water, but readily soluble in alcohol, ether, etc. With various reducing agents, as tin, zinc, or hydrochloric acid, N. are converted to amino-compounds, thus nitroben-zene (C₆H₅.NO₂) is converted into aminobenzene or aniline (C.H.NH2).

Nitrogen, a non-metallic chemical

14.01. At ordinary temperatures it is a gas, and occurs in an uncombined state in the atmosphere, forming approximately 79 per cent. of air by volume. It also occurs combined with other elements in animal and vegetable substances; in various minerals as ammonium salts; in the form of nitrates in Chile saltpetre and other deposits found in the soil. The gas is colourless, tasteless, and odourless; it is slightly soluble in water, to a less degree than oxygen; it is slightly lighter than air. N. was discovered as a constituent of the atmosphere by Rutherford in 1772. It was recognised as an extremely inert gas, and all attempts to bring about direct combination with other substances for a time failed. In 1785 Cavendish showed that N. combined with oxygen in the neighbourhood of an electric spark discharge. This method was used by later investigators, and in 1894 Lord Rayleigh demonstrated the presence of argon in the atmosphere by causing all the N. in a sample to be combined in this way. In 1892 Sir W. Crookes showed that the electric arc caused the formation of a N. and oxygen compound, and attempts have been made to put the production of N. oxides on a commercial footing.

The artificial production of N. compounds derives its importance from the part played by N. in vegetable life. N. does not constitute a large proportion of the elements contained in vegetable matter; but it is a very essential constituent, and, as far as is known, plants are unable to utilise the N. of the atmosphere directly. The N. employed in building up the tissues of plants is contained in the soil in the form of nitrates, ammonium compounds, etc. These nitrates probably owe their existence to the activities of certain micro-organisms which have the power of causing the com-bination of atmospheric N. Under ordinary circumstances, cultivated ordinary circumstances, cultivated land uses up the nitrates thus formed more rapidly than they can be re-placed, so that the N. supply has become a pressing problem to the agri-Experiments have cultural world. been successfully made in the direction of cultivating bacteria of peculiar effectiveness as regards production of nitrogenous compounds, but the usual method is to dress the soil with manures consisting largely of nitrogenous material. The main source of nitrogenous manure has hitherto been the natural deposits found in vast quantity in parts of N. and S. America, particularly Chile and Peru. continued exportation of these nitrates has given rise to the apprehension that they will quickly become

exhausted, so that an economical method of fixing atmospheric N. is assured of commercial success. Among recent developments of methods for the fixation of atmospheric N. may be mentioned the calcium cyanamide process. This requires calcium carbide to be heated to 800-1000° C. in an electric furnace, while N. obtained from the atmosphere is passed through the heated mass to form calcium cyanamide (CaCH₂), a most valuable manure.

N. is usually obtained from the atmosphere by removing the oxygen. This may be done by passing a cur-rent of air over copper heated to redness, by burning phosphorus in a confined volume of air, or by the action of an alkaline solution of pyrogallol on air. It may also be prepared from ammonia by passing a current of chlorine through the hydrate, or by heating ammonium nitrite or a mixture of ammonium chloride and sodium nitrite. The gas obtained by removing the oxygen from atmospheric air contains argon and small quantities of other gases besides N. All of these gases are so inert chemically that they can with difficulty be separated. Recently, what appears to be an active modification of N. has been discovered. In 1911-12 Strutt demonstrated that an electric dis-charge acted upon a low pressure current of N. in such a way as to produce a continuance of the glow after the gas had passed the region of the discharge. This luminous gas con-verts ordinary phosphorus into red phosphorus, while sodium and mercury combine with the gas when heated within it.

Compounds.—N. forms with oxygen five oxides: nitrous oxide (N₂O₃), nitric oxide (N₂O₃), N. peroxide (N₃O₄), and N. pentoxide (N₂O₃). N. peroxide (N₃O₄), and N. pentoxide (N₂O₃). Nitrous oxide (N₃O₃). Or 'laughing gas,' is prepared by heating ammonium nitrate. The oxide is a colourless gas with a pleasant odour and taste. It condenses at 15° Cc under a pressure of 40 atmospheres. It is soluble in water, is easily decomposed by heat, and resembles oxygen in supporting combustion. It has marked anesthetic properties, and is used in dental practice to a great extent. There is a corresponding oxyacid, Hyponitrous acid (H₂N₂O₃), forming salts called hyponitrites, of which the silver salt is most usually prepared. Nitric oxide (NO) is prepared by the action of dilute nitricacid on copper, or by the action of sulphuric acid on a mixture of potassium nitrate and ferrous sulphate. It is a colourless gas which readily combines on admixture with oxygen, forming reddish-brown fumes of N.

peroxide. It is only sparingly soluble A number of organic substances are in water, and is difficult to liquefy. Irich in nitrogen, such as guanos, meat Nitrogen trioxide (N₂O₃) is prepared and fish residues, rape dust, and other by decomposing a nitrite with sulvegetable residues, and also various phuric acid. It is a very unstable compound, and the gaseous form is probably a mixture of nitric oxide and N. At low temperatures it tetroxide. condenses to a blue liquid. It is the

which are all soluble in water, and give off reddish fumes when heated Nitrogen with a warm mineral acid. peroxide, or tetroxide (N2O4), is formed by the direct combination of nitric oxide with oxygen, and the condensa-tion of the reddish-brown fumes. The liquid is colourless at low temperatures, but darkens in colour as the temperature rises. Bodies which burn with sufficiently high temperatures to decompose the gas will continue to burn in it. Water decomposes N. peroxide with production the nitrous and nitric acids at low temperatures, and of nitric acid and nitric oxide at high temperatures. Nitrogen pentoxide (N₂O₅) is a white crystal-line solid obtained by the action of phosphorus pentoxide on nitrie acid at a low temperature. At 30° C, the crystals melt to form a yellowish liquid which tends to decompose at higher temperatures. N. pentoxide is very readily soluble in water, forming nitric acid, which forms salts called nitrates. Nitric acid is a colourless, fuming liquid with a powerful oxidis-ing action. It readily chars dry or-ganic matter and attacks metals, forming the oxides or the nitrates. The nitrates are all soluble in water and decompose at high temperatures.

N. forms with hydrogen the compound Ammonia (NH₂) (q.v.), which was at one time supposed to be the oxide of a metal ammonium. No such metal has been satisfactorily isolated, and the ammonium salts are thereregarded as derived from radicle (NH₄), which behaves chemically in much the same way as the alkaline metals: sodium, potassium, Nitrogen trichloride (NCla) is etc. obtained by the action of chlorine on ammonium chloride. It is a volatile yellow oil, irritating to the mucous membrane, and is very explosive. Nitrosyl chloride (NOCI) is obtained by the combination of nitric acid and chlorine. It is an orange-coloured gas which is readily liquefied. Nitrogen sulphide (N₄S₄) is obtained by the action of ammonia on sulphur chloride. It is an orange-coloured crystalline solid, melting at 178° C.

vegetable residues, and also various industrial residues known as shoddies. Of purely N. M. there are five in ordinary use, viz. sulphate of ammonia, a by-product in the manufacture of coal-gas; nitrate of soda, which occurs naturally in extensive deposits in Chile; soot; and nitrolim (calcium eyanamide) and nitrate of lime, both of which are manufactured artificially from the nitrogen in the atmosphere.

Nitrogen Peroxide, see NITROGEN. Nitro-glycerine (C₂H₅(ONO₂)₃) was produced first by Sobrero in 1846 by the action of nitric acid on glycerol. the action of nitric acid on glyceroi. Nobel introduced it into the manufacture of explosives. It is prepared by mixing 12 parts of fuming nitric acid with 20 parts of sulphuric acid and forcing a spray of glyceroi through the mixture, which is kept cool by a current of air. The mixture is allowed to stand when the ture is allowed to stand, when the N. forms a layer on the surface. This layer is run off into water, from which it separates as a heavy oil. is then treated with sodium carbonate to free it from acid, and then dried by filtering through felt covered with a layer of salt. It is a heavy, colourless liquid, which solidifies at 8°C. It is yery poisonous, and has a sweetish, burning taste. Sometimes it is used in medicine. If touched by a flame it simply burns, but if heated in a confined space it explodes violently. In the form of a liquid there are many dangers associated with the use of N. To obviate these, as well as to increase its explosive force, Nobel discovered dynamite, in which N. is absorbed in kieselguhr, a fine, siliceous earth. The mixture is pressed into cartridges and fired by a detonator. Many other explosives (e.g. blasting gelatine, cordite) are simply made by mixing N. with various absorbent materials.

Nitro-sulphuric Acid (H(NO)SO.) is obtained as an intermediate product in the commercial manufacture of sulphuric acid. It is produced by the interaction of sulphur dioxide, nitrogen peroxide, and water. It is a white crystalline compound which is decomposed by excess of water, forming sulphuric acid and a mixture of nitric oxide and nitrogen peroxide. Nitrous Acid, see NITROGEN.

Nitrous Ether, or Ethyl Nitrate (C₂H₅NO₂), is a colourless liquid (sp. gr. 0'947 at 15'5'; boiling-point 18' C₁) with a pleasant fruity odour like apples. It is usually prepared by distilling a mixture of alcohol and submitted with the consumer of the colour state of the colour Nitrogenous Manures stimulate the phuricacid with copper and nitricacid. production of leaf and stem in plants. It is insoluble in water, is hydrolysed

55O·

by boiling water and dilute alkalies, and is a component of the 'sweet spirit of nitre' used in medicine. Nisa, a riv. of W. Siberia, Russia. Length 300 m.

Nitshill, a vil. of Renfrewshire, Scotland, 3½ m. S.E. of Paisley. There are coal-mines and guarries in the neighbourhood, and the manufacture of chemicals is carried on. Pop. (1911) 1300.

Nitzsch, Friedrich August Berthold (b. 1832), a German theologian, son of Karl Emmanuel N., was born at Bonn. In 1868 he was appointed profess

in 187 clude:

Grundr ... 1870.

Nitzsch, Karl Emmanuel (1787-1868), a German theologian, born at Borna, Saxony. In 1813 he became a parish minister at Wittenberg, in 1822 professor of theology and university preacher at Bonn, and in 1847 professor and university preacher at Berlin, becoming later a member of the upper council of the Church there. His chief writings were: System der christlichen Lehre, 1829 (Eng. trans., 1849): Praktische Theologie, 1847,

and several collections of sermons. Niu-chwang, see NEW-CHWANG.

Niue, a coral island in the S. Pacific Ocean, in lat. 19° 10' S. and long. 169° 47' W. It is 14 m. long and 10 m. wide. It was annexed to New Zealand in 1901. Straw-plaiting is one of the chief occupations, and hats, nuts, and

fruit are exported. Pop. 4400.

Nivelles, a tn. of Belgium in the prov. of Brabant, on the Thines, 20 m. S. of Brussels. It has important railway works, and manufactures of parchment, cotton, and lace. There is a fine Roman church of St. Gertrude, dating from the 11th century. Pop. 12,000.

Nivernais, a former prov. in the centre of France, nearly coinciding with the modern dept. of Nièvre. It was ruled by the Counts of Nevers in the middle ages, was created a duchy

by Francis I., and re-annexed to the crown lands at the Revolution.

Nix and Nixie, in Teutonic mythology, male and female water spirits, for the most part malignant. They for the most part malignant. were represented as of human form, and frequently mixing with mortals, particularly in music and dancing. See DEMONOLOGY and NICKER.

Nixdorf, a tn. of Bohemia, Austria, 32 m. N.N.E. of Leitmeritz. Pop. 7676. Nizam, the title of the sovereign of

Haidarabad.

Nizhne-Tchirskaya-Stanitsa, a of Russia, in the ter, of the Don Cossacks, 50 m. N.E. of Novo Tcherkask. Pop. 15,100.

Nizhne-Udinsk, a tn. of Siberia, Russia, in the gov. and 270 m. N.W. of the city of Irkutsk, on the Transsiberian Railway. Has gold-mines. Pop. 6000.

Nizhni-Novgorod, see Nijni-Nov-

GOROD.

Nizhni-Tagilsk, a tn. in the gov. of Perm, Russia, on the R. Tagil, 63 m. N. of Ekaterinburg. Copper, gold, platinum, and iron are worked: there is a trade in corn and manufacture of

wooden ware. Pop. 32,000. Nizniau, a vil. of Galicia, Austria-Hungary, on the r. b. of the Doiester, 80 m. S.S.E. of Lemberg. Pop. (esti-

mated) 5083.

Nizza-Monferrato, a tn. of Piedmont, Italy, in the prov. and 16 m. S.W. of the city of Alessandria, on the Belbo. Pop. 9200.

Njörd, in Scandinavian mythology, the god of the sea, corresponding to a certain extent to Neptune, being the spirit of air and water, while Ægir was the bodily impersonation of the sea. His wife was Skade, his son Frey, and his daughter Freyja.

Njurunda, a tn. of Sweden, in the prov. of Vesternorrland, at the mouth of the Njurunda, in the Gulf of Bothnia, 11 m. S.S.E. of Sundsvall. Pop.

8883.

N'Kandhla, a magisterial div., S. of the Vryheid div., Zululand, Natal. Area, 762 sq. m. It contains the Insuzi valley with Cetewayo's burial-place, which the natives regard with It contains the superstitious reverence, and the Insuzi gold-field. The settlement of N. K. is 85 m. N. of Durban. Pop. 30,000.

Noah, son of Lamech, is described in the Book of Genesis as the head of the family that survived the Deluge: and hence as the patriarch of mankind after his time. For the story of

the Deluge, see Deluge.

Noah, the Book of, a lost Hebrew ork which has, however, been largely incorporated into the Ethiopic Book of Enoch and the Book of Jubi-From these we learn that it dealt with the birth and life of Noah. It must not be confused with the late Hebrew work of the same name and partly based on it, given in Jellinek's Bet ha-Midrasch.

Noailles, the name of a noble French family which dates from the 11th century, the chief members of which are: Antoine de (1504-62), appointed admiral of France in 1547, and ambassador to England from 1553-56. François de (1519-85), a diplomatist, a brother of Antoine; was ambassador to Venice, Constantinople, and England. Anne Jules (1650-1708), took part in the siege of Maestricht in 1673, persecuted the Protestants in Languedoc, and be-

came marshal of France in 1693. Louis | the greatest work of an ideal ten-Antoine (1651-1729) became Archbishop of Paris in 1695, and cardinal in 1700. He opposed the bull' Unigenitus' in 1713, for which he was expelled from the court, but he accepted it in 1728. Adrien Maurice (1678-1766) served in the Spanish War, 1705-11, in the wars in Germany, and in those in Italy. He was defeated at the battle of Dettingen in 1743, but distinguished himself at Fontenoy in 1745. Philippe (1715-94), became marshal of France, and served in Germany and Flanders. He and his wife, who was nicknamed 'Madame l'Etiquette' by Marie Marie Antoinette, were guillotined. Louis Marie (1756-1804), a general and politician. He served under La Fayette in America, and when he was appointed a member of the Military Committee he drew up a plan for the reorganisation of the army. He also proposed that titles should abolished. He was made brigadiergeneral in San Domingo, but was killed in an attempt to capture an English ship off Cuba. Paul (1802-85), a politician and author, became a member of the French Academy in 1849, and published *Histoire de la* 1849, and published Assorre de de maison royale de Saint-Louis établie à Saint-Cyr; Histoire de Madame Maintenon et des principaux événements du règne de Louis XIV. Jules Charles Victurnien (1826-95), an Jules author, wrote works on economics, and contributed to the Revue des Deux Mondes.

Noakhali, or Sudharam, a tn., the cap. of a dist. of the same name, Bengal, India. Pop. 7000. The dist. has an area of 1644 sq. m. The chief

exports are rice, betel-nuts, linseed, and hides. Pop. 1,150,000.
Noale, a com. of Venice, Italy, 14 m. N.E. of Padua. Pop. 5000.

Nobel, Alfred Bernhard (1833-96), a Swedish engineer and chemist, born at Stockholm. In 1842 he went to St. Petersburg with his family, and studied the construction of torpedoes and marine mines with his father. In 1859 he returned to Sweden and devoted himself to the study of explo-sives, especially the utilisation of nitro-glycerine. In 1867 he discovered and patented the explosive mixture known as dynamite. A few years later he produced ballistite or smokeless powder. From his various other inventions and discoveries and the exploitation of the Baku oil-fields he amassed a large fortune. At his death he left the bulk of it in trust for five annual prizes worth £8000 each, to be awarded without distinction of nationality or sex. The first three were to be awarded for eminence in dency, and the fifth was to be given to one who rendered the greatest service to promote international peace. The Swedish Academy awards the first four, and the fifth is presented by the Norwegian Storthing. The awards have been made annually since 1901.

Nobile Officium, a term in Scots law which is practically equivalent to the English 'equity.' Generally speaking, it may be said to denote the inherent power of the Court of Session to proceed as a court of equity or by the rules of conscience, in abating the rigour of the law, and to give a remedy in fit cases to those who have no remedy by the rules of strict law. The long recognised opposition in England between the terms law and equity has never been known in Scotland, and the N. O. is the only approximation thereto. It is perhaps not surprising that the Scottish nation found no need for a system of equity, since its law is for the most part founded directly on the ready-made Roman law, which in its latest development embodied all the rules of The Inner the Prætorian equity. House alone exercises the jurisdiction except in cases where petitions are required by statute to be presented to the junior Lord Ordinary. In-stances of its exercise are: (1) Petitions for the custody of children; (2) applications to settle schemes for the administration of charitable trusts; (3) applications to supply omissions in deeds.

Authorities.—Erskine's Principles of the Law of Scotland; Bell's Dictionary and Digest of the Law of Scotland.

Nobility. It is difficult to define N., because the term connotes different qualities and privileges with different nations, and even with the same nations at different periods. N. does not necessarily imply titles, though at the present day it would be a violation of conventional ideas to speak of any one as a noble who had no title, e.g. Article I. of the U.S. Constitution contains a provision against the grant of any title of N., with the result that the wealthiest 'dollar king' of that country is no more than a common citizen. Again, the English baronial N. differed in important essentials from the N. of the Continent, whether of France, Germany, or the mediæval republic of Venice. Bishop Stubbs points out (Const. Hist.) that 'the great peculiarity of the baronial estate in England, as compared with the Conti-nent, is the absence of caste, because in the English system 'the theory of nobility of blood as conveying political (1) physics, (2) chemistry, (3) physic-privilege has no legal recognition-logy or medicine. The fourth was for This dictum, however, must be underThe

the

tions: (1) English peerages may become extinct or fall into abeyance, but so long as there is an heir to the title that heir is ipso facto an hereditary counsellor of the crown or member of the House of Lords, totally irre-

'y is that, whereas in the former one member only (the eldest son or next heir) of a family is noble in the sense of being a member of the peerage and an hereditary counsellor, in the latter the whole kin of certain families enthe whole kin of certain families enjoyed political privileges from the fact of descent from an oligarchic aristocracy, and were therefore accounted noble. (2) However English constitutional law may ignore the idea of caste, the undoubted social pre-eminence of a peer or lesser titled pre-group in England, accorded no less than the constitutional cases of the constitutional cases of the constitutional cases of the constitution of the cases of person in England, accorded no less by title than by landed estates, conveys to the popular mind something altogether indistinguishable_from The sanctity of an English otwithstanding Parliament caste. peer, notwithstanding Parliament Acts, is still reflected in the proverbial saying that the people 'dearly love a lord.' It is true that N. may be defined as a quality or dignity 'whereby a man is lawfully above the estate of the vulgarand common sort of people, and that various ancient writers like Simonides and Aristotle have defined the word by reference to a 'long and wealthy ancestry,' and 'a certain honourable distinction of ancestry respectively, while one Jodocus Clickthovius described it as ' an excellency of gentle race or of some other good quality'; but these 'definitions,' where not quite untrue—as in the case of recently conferred titles on successful merchant-politiciansno more than descriptions of characteristics usually flowing from the possession of titles and hereditary privileges. The essence of orthodox N. is not social or moral pre-eminence, but political privilege founded either on hereditary succession or descent, or specially conferred by royal prerogative upon some novus homo, and as soon as any particular N. becomes divested of these political privileges, respect that exi

are unknown an ant persons, and sorption of the

of Italy, the few possible modern de- as it is composed of descendants of scendants of the celebrated mediæval optimates of Venice are also as gold lace on a frieze coat.

stood with two important reserva- of the three types of N., classic or ancient, mediæval, and modern, will reveal striking differences of origin and development. It is proposed to notice the patriciate of ancient Rome. the aristocracy of Greece, the N. of Venetian republic, and the feudal aristocracy of England and their modern representatives.

The early Roman patriciate, which was synonymous with the *populus* or original people of Rome, was based upon an eponymous ancestry (Romulus, founder of Rome) and upon the fact that the privileged members of the gentes were descendants of those who first occupied the hills of ancient Rome. Later, when it was shorn of its political privileges, the patriciate retained its spiritual or religious significance—a significance due to the fact that none but the members of a clan or gens could participate in the sacra proper to the gens, and that very early in the history of Rome certain offices like those of the flamens (q.v.) had always gone to a patrician. But the hereditary N. of the republic or signory of Venice, for all that r semblance between Rome and Venic in their respective constitutions an policies, which drew from the 17t century historian, Howell, the quair observation 'she (Venice) is more lik old Rome than Rome herself as no she is, as if the soul of old Rome by Pythagorean kind of metapsychosi were transmigrated into her,' had i it nothing spiritual or religious, trace its origin to no original occupancy nor boasted a descent from a commo: founder of the race as distinct fror past holders of office. The ancien Roman N. was literally a N. of prece dence, that of Venice sprang conclu-sively from a commercial plutocrac The ancien and gradually usurped and returned all the political power in the republi until the Church vindicated the right of the lesser orders (see also MUNICI PALITIES). The English N. of th Conquest and the middle ages wa essentially feudal and military, and based upon the solid foundations o landed estates. Like that of the feuda N. of the Normans and Germans, it origin is to be sought in the persona relationship of lord and vassal, and it soon ceases to exist as a noble order in the system of commendation by at all. It may be said without dis- which the lord, in return for the alleof personal services (generally

y or incidental thereto) of his gave or 'loaned' him land and sorption of the the modern kingdom The modern N. of England, in so far ancestors who came over with the Conqueror, resembles the old feudal N. in no other respect now than in the But though political privilege is fortunate fact of possessing huge the mainspring of N., a brief survey landed estates; but for the rest the

of peers (including dukes. viscounts, earls, and marquises), some with patents entitling them to sit in the Upper House and some without, and baronets and knights, the great majority of whom possess titles of recent creation, awarded for political or other public services. Only a few of the existing English peerages go back before the time of William Pitt the Younger, who himself created

160 odd. Roman nobility. — Probably no national N. subsisted in its integrity so long as the ancient Roman populus. Florentine, Venetian, and Milanese dukes and signors rose and fell within a comparatively trifling period of time; the residue of English ducal heads that can claim an unbroken pedigree back to the Norman period possess, it is true, at least one-fifth of the area of the country as their private property, but they have no special nolitical privileges by reason of that territorial wealth. If there were one reason which more than any other might account for the endurance of the Roman populus or decurial heads political monopolists, legislative and executive, it might be said to be the fact that the privileged families were bound together by strong re-ligious ties. The mere fact of birth in one of the families forming a member of a gens gave the entrée to a sacred circle which was not only closed to all outside, but even in the day of the empire, when the ancient significance of populus had long been forgotten, still retained a certain exclusiveness. But after the time of the admission of the plebs to a share of political rights and the legislation of intermarriage between patricians and plebeians (terms which in their later meaning must not be understood with the popular invidious connotation), the Roman N. underwent many metamorphoses. It was after the expulsion of the kings that the plebeians, or meteci, began really to gain ground. When they became temporarily allied with the ancient burgesses to avert the threatened danger of a reversion to monarchical tyranny, the latter found they could not cast them off as easily as they had hoped. The patricians and plebeians, on the latter becoming enrolled in the registers of the curies and entitled to sit in the common assembly, were thus amalgamated in a new corporation of Roman civis or burgesses; but this was as yet far from a genuine fusion, and indeed,

British N. consists of a heterogeneous, old patricians then became for a time. as did the Venetian signors of a later date, a genuine N., in the sense that they were incapable of receiving additions to their ranks or even of filling up their own defections, for the simple reason that they themselves no longer possessed the sole right of passing decrees in the Assembly. Thus, while under the kings the ranks of the Roman N. were open to nominees by the decrees of the curial assembly, and the admission of new clans was of frequent occurrence, from henceforth this genuine characteristic of patricianism made its appearance as the sure herald of the speedy loss of its political privileges and of its im-portance in the community '(Momm-While merit and a genuine hereditary capacity to govern were exhibited, as in the case of some of the Florentine and Venetian nobles, no strong reason can be adduced for substituting a new N. But the Roman N. of the early Republican period displayed from the first that haughty conservatism and disdain of the governed which experience shows be the inevitable precursor to oblivion: and, moreover, there were superadded gratuitous exclusions of the plebeian orders, not only from all public magistracies and public priesthoods, but from the legal possibility of intermarriage with the patrician orders. Prior to the institution of the tribunate of the plebs, too, the aimed at the destruction of the middle classes, especially the intermediate and small landholders, and endeavoured to develop a dominating landed and moneyed aristocracy on the one hand, and an agricultural proletariat on the other (Mommsen). It was the exclusion of the wealthy and respectable plebeians from the patriciate even after admission to the Senate that proved their downfall and led first to the threat of civil war and the plebeian secession, and then to the establishment of the tribunate of the plebs, though the curious fatalism with which public opinion will acquiesce in the existence of an undeserving N. was proved by (1) the fact that it was not the denial of political equality which hastened the cause of democratic progress in the shape of the tribunate and the written Legal Code, so much as the economic distress of the farmers; and (2) the concessions were not wrung from the politically privileged classes, but from the wealthy landlords and capitalists, though no doubt the net result was the same because the tribunes obaccording to Mommsen, one conse-quence of this participation in politi-the discussions of the Senate. These cal rights was the conversion of the various concessions were gradually old burgesses into a clan-nobility. The followed by the equalisation of the

orders and the birth of the new aris- | full of contradictions and seeming tocracy, though, as stated above, the old privileged clans for ever retained their religious individuality, especi-ally their exclusive eligibility to the offices of supreme flamines, and to that of the rex sacrorum, and to the membership of the colleges of Salii. Apart from these exceptions there was a complete throwing open of magistracies and priesthoods to the plebeian order. But though the plebeians henceforth began to reverse the old order of things by legally excluding the old N. from the tribunædileship, ate. the plebeian second consulship and censorship, the haughtiness of the old patricians survived their class privileges for and they 'continued centuries, rudely and spitefully to display their aristocratic spirit' (Mommsen) in spite of a subsequent complete civic equal-An expression of the jealousy of the old families is to be found in the invidious term 'minorum gentium,' which they applied to the recent creations, in contradistinction to 'majorum gentium,' which they applied to themselves; which latter term, of of I course, pointed to their alleged Trojan descent, though strictly this belonged exclusively to the Ramnes instituted by Romulus (see Juvenal, Satire I.). The new N. spoken of above arose in spite of this formal Republican equality; it has made up the old N., and the leaguing together with them of non-patrician families of wealth or power who had separated from the plebs, and it was undoubtedly this social and political alliance which enabled the old N. to survive as a N., and to exhibit a phenomenon which will find a parallel in the history of almost every nation, ancient and modern.

Grecian nobility.—Apart from an aristocracy of wealth, it is doubtful whether in their later history there was a N. in the city-states of ancient Greece. If there was, it affords some ground for the assumption that N. and democracy are not inconsistent with each other. Certain it is that a modern social democracy spells the doom of N., a result largely due to the levelling tendencies of a cheap national educational system. In the city-state of Athens, on the other hand, it is at least doubtful whether the so-called true democracy was not in reality an aristocracy of mingled birth and in-tellect. For the mixed settlers or Attic demos which overran Athens andits environs, though free enough to choose their rulers, commonly fixed their choice upon some representative of an ancient and honourable family. If any sort of generalisation be possible

anomalies as ancient Athens, it is that the Athenian N. of the period prior to the Dorian invasion furnished a close parallel to the Roman populus, being tribal in its genesis, and claiming precedence from an original occupancy of the soil; but that thereafter, in the heyday of the demos, when the εὐπατρίδαι had lost all their political privileges, there was no N. in the true sense at all—at all events, as distinct from a mere aristocracy of wealth. Long after other city-states had been conquered by the outlying tribes, Athens alone retained its exclusiveness because of the poverty of its soil; and with this exclusiveness it retained its ancient patriciate. But when the Dorians conquered the Peloponnesus, there was an influx into Athens of immigrant families from wealthier districts. Athens then became the most important of the Greek city-states, and immigrant noble families like the Pisistratidae and Alemeonide outshone the old Athenian tribal N. in the eyes of the common people. From that time the old military N. of Athens gave place to an aristocracy of wealth. The later democracy was as much a consequence of the better-class hatred as of anything else, for this class hatred 'ex-tinguished the last decencies of patriotism' and was reflected in the very divisions of political parties. But while it is true that the Athenian republic tolerated no N. in the orthodox and only coherent sense of that term, it is difficult, in view of the utter failure of the shallow Athenian democracy, to say wherein the political ascendency of those representatives of aristocratic families, whom the popular vote habitually selected as its rulers, was in any way inferior to that of the old oligarchic εὐπατρέδαι. The democracy as an ideal form of polity was no doubt so highly revered by the demos that they resented attacks upon it; but its leaders, certainly its demagogues, do not seem to have commanded much popular respect, if a lesson may be drawn from the universal amusement derived from the satires of Aristophanes on Cleon (see the Pseudo-Xenophon). Amusement and laughter in any populace are consistent only with contempt and hatred for the object satirised, though such manifestation in the liberally educated classes may well be no more than the expression a transient cynical scepticism. Whatever the faculty for government of that Athenian demos, which, as historians assure us, was literally to a man swept by the scarlet rope into the arena of the 'Ecclesia' or public in the social distinctions of a state so assembly, whatever the neculiar intellectual and artistic range of this without also being a lord of parliaancient and gifted people, their democratic civilisation, such as it was,

appear to have been latently aristocratic to a degree. If this characterestimate of the Athenians be justified. it furnishes yet another proof of the psychological fact that however depressed the fortunes of existing orders of N. may become in a democracy, ancient or modern, the people at large will inevitably set up other idols, titled or untitled, in their place, and those idols will almost assuredly be representatives of families of a

be representatives of families of a known and respected lineage.

British nobility.—Judged by the test applied by Mommsen to the Roman aristocracy of the early Republican period, the British N. of to-day, assuming the term to be synonymous with the peerage, is not a true N. for though recome a true N.; for though no one can diminish its numbers by divestiture of title, whether by reason of attainder on conviction for felony or by any other way, the king can, on the advice of the ministry, create any number of new peers. It is true that constitutional lawyers assert that forfeiture of dignity or title and deprivation of privileges will still ensue upon attaint for treason or felony, but tolerably recent history shows that attainder does not now follow upon conviction: and indeed there is no reason why a peer who has suffered the ignominy of a criminal trial should suffer this additional punishment, it being really no more than feudal archaism, the primary object of which was to secure to the crown the estates supporting the dignity.

To follow a strictly orthodox procedure, a description and historical account of the present British N. would embrace English, Scottish, and Irish peers, whether necessarily 'lords of parliament' or not, a somewhat wearisome enumeration of their surviving privileges, and a purely antiquarian research into the feudal origin of the different grades of peers dukes, marquises, earls. viscounts, id barons. But a brief historical and barons. survey only is necessary to understand the value of their present privi-leges and their exact position rela-tively to other citizens who cannot claim to be of emobled blood. There are five classes of peers apart from the above gradation: (1) Temporal hereditary peers of the United Kingdom, (2) spiritual English peers,

ment, e.g. an unelected Scottish or Irish peer, or a peeress in her own right. Some 133 Scottish and Irish peers out of a total of 262 have the right to sit in the Upper House by reason of holding peerages of the United Kingdom. Again, some peers are hereditary, others only life peers. On retirement, a lord of appeal (i.e. a judge of the ultimate court of appeal) remains a lord of parliament, but a bishop on retirement loses his seat. A dukedom is the first grade of N., but at various public functions dukes are lower in precedence than certain high dignitaries of office, e.g. the Archbishop of Canterbury, the Lord Chancellor (if a baron), the Archbishop of York, and the Prime Minister. 'Duke' is derived from dux, which among both Saxons and Romans meant leader of an army. The number of existing dukedoms, from the fact possibly that as the first Norman kings were dukes of Normandy they did not deem it politic to create other dukes, is stereotyped. Apparently the whole order became extinct in the reign of Elizabeth, but was revived by James I., who ennobled his favourite, George Villiers, as the Duke of Buckingham. Many of the present dukes are princes of the blood royal. Marquisates, too, exhibit a like conservatism in num-bers; and similarly the term 'mar-quis' is now a mere title of honour, though in its origin it denoted those greater barons whose duty it was to guard the Scottish and Welsh marches or borders. New earls are created comparatively often; the term 'earl' (i.e. ealdorman) denoted the head of a shire. The expression belted earl 'arises from the mode of investiture of an earl, a belt being buckled round the waist and a sword attached to the belt. The term viscount' is derived from vicearnes, i.e. the sheriff who presided in the county court. Barons form the lowest grade of peers. Anciently, barons were those churchmen or laymen who held land of the king per baronium, i.e. held by honourable service as feudatories of a prince. It is the most general title of N., and anciently every peer of superior rank had a barony annexed to his higher title. It was early decided that the fact of holding per baronium did not neces-sarily give the right to be summoned by writ to the House of Lords. Barony does not now depend on land tenure at all, and indeed, the title has gone out of popular use, having long been superseded by 'baronet.' Peers are created: (1) By writ of summons. (3) sixteen Scottish elected peers, been superseded by 'baronet.' Peers (4) twenty-eight Irish life-elected are created: (1) By writ of summons. peers, and (5) lords of appeal in Such peerages are not complete until ordinary. A person can be a peer the person honoured takes his seat in

becomes hereditary. becomes hereditary. (2) By letters patent, which mode is said to 'ennoble the blood ' because the heir specified in the patent succeeds even though the grantee die before taking his seat. Peeresses in their own right who marry commoners retain their titles, but peeresses by marriage lose their titles by such marriage. Apart from the possession of a seat in the House of Lords, which since the passing of the Parliament Act is a privi-lege of problematical value, a peer's only privileges seem to be a right to be tried by his brother peers and exemption from jury service. If, therefore, the English N. be viewed according to old criteria of hereditary succession to political privileges, a totally wrong impression of it is likely to be gained. At the present day, whatever the emasculation of political powers may bring forth in the future. the N. of England owes its exalted position primarily to wealth (mainly land) and the glamour surrounding titles of traditional glory. A misconception of English N. is also likely to arise from the endeavours to make its limits coincident with those of the peerage. Roman, Greek, Florentine, and Venetian noble orders comprised clans, or families, not merely the individuals who happened to be the eldest son or other heir. But though legally the British N. comprises only the peerage, it would be pedantic to exclude either the younger sons or even other near collateral relatives, or the various existing orders of knighthood (q.v.). At least, this more comprehensive view, if less in harmony with that unreasoning trait in the common mind which reverences titled blue blood from a misty regret for the extinction of the age of chivalry in favour of one of 'sophisters, economists, and calculators, is more consistent with the real tests of that degree of political weight and social superiority which even in these democratic days are still the rock-bottom of N. What the future of N. in Engof N. What the little of the land or elsewhere is likely to be it is of a quiet, dreamy, and emotional not easy to say, though the rapid

a 'night-piece,' not easy to say, though the rapid with which European countries. similate Western ideas leads one suppose that some such exclusion as that noted at the beginning of this article in the U.S. constitution may find its way even into the British On the other hand, constitution. titles, if apparently inconsistent with a true democracy, may well endure in one form or another indefinitely, from the psychological fact that they do seem to satisfy the human instinct for hero-worship, and in themselves

the House of Lords, when the title services real or imaginary. For it is not titles per se that any democrat need quarrel with; his appropriate matter for rebuke is the kind of man and the kind of services that receive what Burke called the 'graceful ornament to the civil order, and the Corinthian capital of polished society.'

Bibliography.—Mommsen, History of Rome; E. P. Shirley, Noble and Gentle Men, 1860; Selden's Titles of Honour, 1672; Litta, Celebri famiglie italiane.

Noble, an ancient English gold coin, first minted by Edward III. in 1344, Its original value was 6s. 8d., but, it having increased to 10s. owing to the depreciation of silver, a new coin, called an 'angel' (q.v.), of the former value of a N., was issued by Henry VI. On one side of the N. was stamped a ship to commemorate the victory of Sluvs.

Noblesville, a city, cap. of Hamilton co., Indiana, U.S.A., on the White R., 21 m. N.N.E. of Indianapolis; has manufs. of carriages, iron goods, etc. Pop. (1910) 5073.

Nocera Inferiore, or Nocera dei Pagani (ancient Nuceria), a tn. of Campania, Italy, in the prov. and 8 m. N.W. of the city of Salerno, on the R. Sarno. It is a bishop's see, and

the R. Sarno. It is a bishop's see, and in the neighbourhood are the ruins of a medieval castle. There are manufs. of textiles. Pop. (com.) 28,000.

Nocera Umbra, a tn. of Umbria, Italy, in the prov. and 20 m. E. of the city of Perugia. There are mineral baths. Pop. (est.) 8000.

Noceto, a com. of Italy, in the prov. and 6 m. W. of the city of Parma, on the Recchio. Pop. 7500.

Noceture a division of the night

Nocturn, a division of the night office in the Roman and other Each N. in the present breviaries. Roman breviary consists of three psalms and three lessons with their antiphons. The night office was, during the middle ages, said in the morning, whence its name of matins, but it is now said by anticipation on

the previous evening.
Nocturne, in music a composition

a certain extent enade.' The name

and character originated with John Field (1782-1837), but it is a form of composition which Chopin made peculiarly his own.

Noddy, a name meaning foolish and slow, sometimes given to Anous stolidus, a genus of tropical terns. See TERNS.

Node, in botany the joint of a stem, or part from which a leaf springs. See STEM.

are at least some sort of concrete ex- Nodes. The N. of a planet or any pression of a nation's gratitude for other celestial body are those two

points where its orbit is cut by a fixed plane; in the case of the solar system, House of Ravensburg, 1877; Livingstone by the ecliptic. The straight line in Africa, 1874; Essays, 1886; and a which joins these points is called the Life of Byron, 1890, and edited a line of N. The point at which the selection of Otway's plays and orbit of a planet passes from under the ecliptic to above it is known as the were edited by his sister, Victoria ascending node, the other and opposite point necessarily being the descending Node. The longitude of the ascending Node. The longitude of the ascending Node is one of the six 'elements' by which the movements of a celestial body are determined. Owing to the mutual attractions of the planets, the line of Node is continually shifting; alternately advancing and receding. The retrogression of planetary Node is never exceeds one degree per century, but owing to the great attraction of the sun the lunar Nodemlete a point necessarily being the descending the sun the lunar N. complete a revolution in about eighteen years and seven months. This cycle, known as the Saros, was discovered by the Babylonian astronomers, who observed that the eclipses of the sun and moon recurred in the same order in each cycle.

Nodier, Charles (1780-1844), French author, born at Besancon. In 1824 he became librarian at the Bibliothèque de l'Arsenal; in 1833 he was elected to the Academy, and in 1843 made a member of the Legion of Honour. He was the centre of the early members of the Romantic School; Hugo, de Musset, and Sainte-Beuve all acknowledged his influence. His best work consists of his fantastic HIS DEST WORK CONSISTS OF HIS RAILESSING SHORT STOTIES, among which are: Smarra, 1821; Trilby, 1822; Histoire du roi de Bohême et de ses septs châteaux, 1830; La Fée aux Mietles, 1832; Inès de les Sierras, 1838. See Prosper Mérimée, Portraits historiques et littéraires, 1874; Francis Wey, Life, 1844

1844. Noé, Amédée de, Comte, see CHAM. Noel, Sir Gerard Henry Uctred (b. 1845), a British admiral, born at Stanhoe, Norfolk. He was rear-admiral of the Mediterranean Fleet (1898-99). From 1900-3 he was in command of the Home Fleet and admiral-superintendent of the naval reserves; from 1904-6 commander-in-chief on the China station, and from 1907-8 at the Nore. He became Admiral of the Fleet in 1908. Was created K.C.M.G. in 1898, and K.C.B.

in 1902. Noel, Roden Berkeley Wrietnessey (1834-94), an English poet and critic, MSA-SA), an English poet and critic, was a son of the Earl of Gainsborough. He published: Behind the Veil, 1863; Beatrice, and Other Poems, 1868; The Red Flag, 1872 (2nd ed. 1883); A Modern Faust, 1888; Poor People's Christmas, 1890; My Lea, and Other Poems, 1896: A Little Child's Monument, 1881. His best known work was written in memory of his son Eric written in memory of his son, Eric.

Buxton, 1902.

Nöstus (c. 130-c. 200 A.D.), a native of Smyrna; he became a leader of that branch of the Christian Church which embraced the doctrine called patriapassianism. He was a presbyter of the Church of Asia Minor, but his views led to his excommunication. His contemporary, Hippolytus, in his published Sermon against the heresy of a certain Nöctus, is the authority for his doctrines, which his disciple, Epigonus, preached at Rome.

Noeux-les-Mines, a com. in the dept. of Pas-de-Calais, France, 6 m. E.N.E. of Hondain; has coal mines, brass-foundries, and distilleries. Pop.

8300. Noga or Naga Hills, a dist. of Assam, India, consisting largely of unexplored jungle and mountain districts. Area 3070 sq. m.

Nogal, a river of Central Africa and Italian Somaliland, flowing S.E. into Bandal d'Agoa Bay from June till August.

Nogent-le-Rotrou, a tn. in the dept. of Eure-et-Loir, N. France, 38 m. W.S.W. of Chartres by rail. Manufs. woollens and leather. Pop. 8400. Nogent-sur-Marne, a tn. in the dept

of Seine, France, on the r. b. of the Marne, 6 m. E. of Paris. There are important chemical manufs. Pop. 12,000.

Noirmoutiers, an island of N.W. France, belonging to the dept. of Vendée. It is 12 m. long and 1 to 4 m. broad, with an area of 22 sq. m. It is fertile and has oyster fisheries. Chief

nertie and nas oyster isneries. Chief tn. Noirmoutiers. Pop. 8388.

Noisseville, a vil. of German Lorraine, 5 m. E. of Metz; the scene of a defeat of the French by the Germans on Aug. 31 and Sept. 1, 1870.

Noisy-le-Sec, a tn. in the dept. of Seine, France, near the Ourcq Canal.
Pop. 11,000.

Nokes, James (d. 1692), an English actor. He first played at the Cockpit in 1659 as one of the boys who habitually took women's parts. Among his favourite parts were: Sir Martin Marrall (in Dryden's play of that name), Sir Davy Dunce, Sir Credulous Easy, Sir Barnaby Brittle, Old Jordan, and the Nurse in Nevil Payne's Fatal Jealousy, winning for himself the nickname of 'Nurse Nokes.'

Nola, a city and episcopal see of Caserta, Italy, 161 m. E.N.E. of Naples. Giordano Bruno was born here. Pop. 15,000.

Nolana, a genus of hardy plants

(order Convolvulaceæ) of low growing the defendants. habit, and sometimes grown on sunny beds and rockeries, especially near

Noldeke, Theodor (b. 1836), a German Orientalist, born at Harburg. His first work was a history of the Koran (1859), which won the prize of the French Académie des Inscriptions, and which he rewrote in German as Geschichte des Korans (1860). In 1861 he lectured at Göttingen; in 1868 he was professor at Kiel, and from 1872-1906 professor of Oriental from 1872-1900 processes languages at Strassburg. His works include Die Alltestamentliche Literatur, 1868; Geschichte der Perser und Araber zur Zeit der Sasaniden, 1879; Das Leben Mohammeds, 1863; Per-sische Studien (2 vols.), 1888-92; Sketches from Eastern History (Eng. trans.), 1892; Syriac Grammar (Eng. trans.), 1904.

Tangere, Noli me LUPIS, see

TUBERCLE.

Nolinsk, a tn. of Russia, in gov. and 62 m. S.S.E. of Vyatka. Pop. 5500. Nollekens, Joseph (1737-1823), a sculptor. In 1760 he went to study in

Rome, where Garrick met him and commissioned him to execute a bust. This was so successful that Sterne sat to him. He increased his income by buying and selling antiques, and by stock exchange speculation, and was so successful that at his death he was worth £200,000. He returned to England in 1770, and was soon the fashionable sculptor of the day, and among his sitters were the members of the royalfamily and a great number of distinguished political and social personages. He was very successful in his busts. There is a biography, Nollekens and his Times, by John Thomas Smith, 1829 (reprinted, ed. by Edmund Gosse, 1894).

Nolle Prosequi, in legal practice an entry in the record of a court which indicates that the prosecutor or plaintiff desires to proceed no further with the case. Formerly the practice in entering a N. P. applied both to civil and criminal suits, but long ago it was superseded by motion for nonsuit for want of sufficient evidence, which practice was in its turn super-seded by a purely informal practice whereby the judge withdraws the case from the jury and directs judgment to be entered for the defendant, without or notwithstanding their verdict, where on the submission of counsel for the defendant he decides that there is no case for the latter to answer, and that no amendment of the pleadings will cure the defect. In criminal cases the defendants. It can only be entered on the fiat (q.v.) of the Attorney-General or Solicitor-General. It is, however, even in criminal cases, rarely used, though technically it applies wherever the crown desires to stay proceedings against a prisoner

in order that he may turn king's evidence (q.v.).
Nollet, Jean Antoine, Abbé (1700-70), a French philosopher and physicist. He became a member of the London Royal Society (1734), and of the Academie des Sciences at Paris (1739). He was appointed to the newly instituted chair of experimental physics at the Collège de Navarre (c. 1753). His works include: Lecons de Physique expérimentale, 1743; Re-cherches sur les causes particulières des phénomènes électriques, 1749 and 1754; L'Art des expériences, 1770. See Nécrologe des Hommes célèbres de

France; Nouv. Biog. Gén.
No Man's Land, the name applied outlying districts in various countries. It has been used especially to designate the following: (1) A region N. of Texas (Public Land Strip), ceded to U.S.A. in 1850, Strip), ceded to U.S.A. in 100v, constituting Beaver co., Oklahoma, since 1890; (2) a narrow district between Delaware and Pennsylvania (3) a small island 3 m. S.W. of Martha's Vineyard, Massachusetts, to which it belongs; (4) the region corresponding to what is now Griqualand E., Cape of Good Hope; (5) a tract of S. Australia, 80,000 sq. m. in area.

Nombre-de-Dios, a fm. of Mexico state, and 32 m. E.S.E. of Durango. There are rich silver-mines near. Pop.

6800.

Nome, a tn. on the S. of the Seward peninsula, N.W. Alaska, on the N. shore of Norton Sound, 13 m. W. of Cape Nome. It is the centre of a great gold-mining district, discovered in

1899. Pop. (1900) 12,488; (1910) 2600. Nomenclature, see CHEMISTRY—

Chemical Nomenclature.

Nominalism as opposed to Realism, was one of the two doctrines of the middle ages. The two views of Nom-inalism and Realism were opposite, and arose from a consideration of the nature of species and genera. N. implies a belief in the theory that universals,' i.e. genera and species, are only

of qualit

therefore, ... was general but names. A narrower form of N. held that even concepts or ideas are not really Roscelin in the 11th century was a great nominalist, but he brought N. when an indictment (q.v.) has been under the ban of the church as a found (see JURY), proceedings on it heresy by arriving at a tri-theistic can only be stopped by the crown doctrine of the Trinity. From then entering a N. P. against one or all of on N. was held to be heretical and demned by the church. Later in the 14th century William of Ockham upheld N., and among more modern philosophers Hobbes and Berkeley may be mentioned as upholders of modified forms of the doctrine. See CONCEPTUALISM, REALISM, SCHOLAS-TICISM.

TICISM.

Nomsz, Jan (1738-1803), a Dutch poet and dramatist. He wrote an epic poem on William I., Prince of Orange (1779). * His tragedies include Maria van Lalain, which was very popular; Zoroaster; The Duchess de Coralli, and Cora. See De Vries, Hist. de la Poésic Hollandaise; Nouv. Biog. Univ.; Rose, New Gen. Biog. Dict.

Nonæ, or The Nones, in the Roman calendar the fifth day of all months.

calendar the fifth day of all months except March, May, July, October.

'March, July, October, May Make Nones the 7th, Ides the 15th, day.'

It was so called because falling on the ninth (nonus) day (reckoning inclu-sively) before the Ides, and marked the moon's first quarter. Cf. Kalendæ, Idus. See Smith's or Harper's Dict. of Classical Antiq. under Calendarium.

Nonantola, a vil. of Emilia prov., Italy, 7 m. N.E. of Modena, on the Panaro. Pop. 6500.

Non-Commissioned Officers,

CORPORAL.

Nonconformity, refusal to conform to the doctrines and discipline of an The term has established church. been especially used in the case of dissent from the Church of England, and in this connection it denotes the whole body of Protestant dissent, including but rarely the Roman Catholic body in this country. It is important to notice that in the 17th century the word bore quite another connotation. It then signified the practice of those who, while remaining within the bounds of the Church, yet refused to conform to certain ceremonial practices, such as the wearing of the surplice, the sign of the cross in baptism, and the use of the ring in marriage. The rise of N. in the present meaning of the term dates from the period immediately following on the Reformation. The first secession took place in 1563, and the opinions which had led to it spread rapidly throughout the Establishment, where their adherents were known as Puritans. But their violence turned the anger of the state against them, and during the reign of Elizabeth they were visited with more than one stern attempt at repression.

rational. Abelard was a conceptualism more favourable treatment, but the swayed really to N. and was also conceptualism of Ockham the ference speedily convinced them to 14th century William of Ockham the contrary. Indeed, during the reign of James and his son, the royal power was wholly on the side of Episcopacy. Owing to this identification of king and bishop, the misgovernment of the king brought odium upon the Church as well as upon the throne, and the Puritan movement was correspondingly strengthened. When, therefore, recourse was had to arms, the resentment of the parliament was directed against the Church as well as against the royal prerogatives, and the death of Laud soon followed that of his king. The supremacy of parliament was marked by a vigorous attack on Episcopacy, at first in the interests of Presbyterianism but later in those of Independency. In 1643 the Westminster Assembly adopted the Solemn League and Covenant, which included an article for the abolition of prelacy. Two years later the use of the Book of Common Prayer was forbidden under heavy penalties, and the Directory of Public Worship was im-The Church of England was eclipsed but not destroyed, and the reaction which followed against the political system of the Common-wealth was directed also against Puritanism. Hence the Restoration of 1660 was followed by the passing of a body of legislation directed against Nonconformists. The Act of Uniformity (1662) was an attempt to remove from ecclesiastical benefices those Puritan ministers who had been intruded during the Commonweath period. It obliged all those who had not received episcopal ordination to do so, and rather than submit to this a large number of ministers, of whom the number has been variously estimated, quitted their benefices. Other Acts of the Clarendon Code were directed to the repression of N. outside the bounds of the Church, such as the Conventicle Act (1664), which laid penalties upon all attending dis-senting conventicles, and the Five Mile Act (1665), which forbade Puritan ministers when travelling to come within 5 miles of a corporate town. The Test Act (1673), though directed principally against Roman Catholics, also pressed hard upon Protestant dissenters; and no satisfaction was felt by them at James II.'s Declarations of Indulgence (1687-88), for these test were abytiquely intended. these, too, were obviously intended for the relief of Roman Catholics. A change came with the accession of William and Mary, and the Toleration Act of 1689 removed most of the On the accession of James I., who tion Act of 1689 removed most of the had been brought up among Presby-disabilities imposed by the Clarendon

Scottish Presbyterians in this country and the continued immigration of Scotsmen has strengthened it considerably. In 1730 some attempt at combined action among the Nonconformist bodies was made by the non-corporate union of the three denominations, Baptists, Independents, and Presbyterians. Outside this union the chief dissenting bodies were at this time the Quakers and the Unitarians. But by 1760 another important body was added to them on the secession of the Methodists from the Established Church. At the beginning of the 19th century the continued efforts of Nonconformists to secure the removal of the many disabilities under which they laboured began to meet with success, and this success has since steadily increased. The repeal of the Corporation and Test Acts took place in 1828; in 1836 marriage in a dissenting chapel was made legally valid; in 1871 an Act was passed opening the universities to non-members of the Church of England; in 1880 Nonconformist ministers were allowed to conduct funerals in the parish burying grounds. strong movement is at present to be seen among Nonconformists in the direction of union, though the general hostility to the Church can hardly be said to have diminished. A great step in the direction of union between the various bodies was the establishment in 1892 of the National Council

of the Evangelical Free Churches.
Nondweni, a vil. of Ngutu dist.,
Natal, S.E. Africa, 110 m. from

Durban, with gold and copper mines.

Non-effective is a term used in the British army and navy to describe the status of officers who are no longer on It includes all rethe active list. tired officers and those on permanent half-pay, but not those who are on the unemployed supernumerary ' or the temporary half-pay list.
Nonius Marcellus, a Latin gramma-

rian, probably of the 3rd and 4th centuries A.D. He is noted as the author of De Compendiosa doctrina . . ., valuable for the fragments preserved from old dramatists. Satirists and annalists such as Ennius, Cato, Varro, Priscian, and Fulgentius borrowed from this See editions of Junius (1565), Gothofredus (1586), Mercier (1583, 1614, 1826), Gerlach and Roth (1842), Müller (1888), Onions, i.-ili. (1895), Lindsay (1903). Consult Peuffel and Schwabe, Hist. of Rom. Lit., ii.; Nettleship, Essays in Lat. Lit. (1885).

Code, though the Corporation Act volution of 1688 refused to take the and the Test Act remained in force oath of allegiance to William and until 1828. The present Presbyterian Mary. They were headed by William Church of England was founded by Sancroft, Archbishop of Canterbury, Sancrote, Archonshop of Canterbury, and included seven other bishops. Ken of Bath and Wells, White of Peterborough, Lake of Chichester, Turner of Ely, Frampton of Gloucester, Thomas of Worcester, and Lloyd of Norvich. About four hundred the Lower class we refused to dred of the lower clergy refused to take the oath, among them being many distinguished ecclesiastics. Some soon returned to the Established Church, but the body continued to exist with gradually diminishing numbers well on into the 19th century. See T. Lathbury's History of the Non-Jurors (1845), and J. H. Overton's The Non-Jurors (1902).

Non-Metals, one of the two classes into which chemical elements are di-Their characteristic physical vided. properties are as follows: they may be gases, liquids, or solids at ordinary temperatures, the liquid and solid N.-M. are easily converted into the gaseous state at comparatively low tem-peratures. They are brittle, if solid, generally have a low specific gravity, and are bad conductors of heat and electricity. The chemical properties give a more definite test. The N.-M. always form acidic oxides, they are not acted upon by dilute mineral acids, and generally form stable com-

pounds with hydrogen.
Nonnenwerth ('Nun river island')
or Rolandswerth, an island of the
Rhine, in the Prussian dist. of Coblenz, near Königswinter. It is at the foot of the Drachenfels, 8½ m. from Bonn.

Non Nobis Domine, a canon by William Byrd (q.v.), is often sung in

place of grace after dinners.

Nonnus, a Greek epic poet of the 5th century A.D. (fl. c. 410), a native of Panopolis, Egypt. His most noted work is the Dionysiaca (History of Bacchus). A Paraphrase of St. John is also extant (written in Greek hexameters). N. was probably a Christian. His Dionysiaca was edited by Gräfe (1819-26), by Marcellus (1856), by Köchly (1658). See Weichert, Dissertatio de Nonno (1810); Uwarrow, Nonnos (1817); Naeka, De Nonno Imilatore Homeri (1835); Janssen on his works (1903).

Nonnus (Nonus), Theophanes, a Greek physician of the 10th century (d. 959 A.D.). He dedicated his work Compendium totius Artis Medica to Compendium tolius Artis Medica to the Emperor Constantine Porphyro-Müller (1888), Onions, i.-iii. (1895), genitus (911-59). It was published by Lindsay (1903). Consult Peuffel and Schwabe, Hist. of Rom. Lit., ii.: Nettle-ship, Essays in Lat. Lit. (1885).

Non-Jurors, those clergy of the Church of England who after the Re-

Non-Possumus (Lat., 'we cannot'), couver Is., British Columbia, Canada. a sort of Papal formula used to express refusal final and absolute, taken from the words of St. Peter and St. (order Cactaceæ). M. coccinellifera (order Cactaceæ). In coccinellifera is the cochineal plant, and is cultivated have been used by Clement VII. in in Mexico and the W. Indies as a food from the words of St. Peter and St. John (Acts iv. 19-20). It is said to have been used by Clement VII. in reply to Henry VIII.'s demand for a divorce from Catherine of Aragon.

Non-Suit. Technically a N.-S. no longer exists. Under the former practice N.-S. meant the voluntary abandonment by the plaintiff of his action, either because the judge or jury appeared to be against him or because in argument it appeared that in law he had no case. It differed from an adverse judgment in that it did not bar him from commencing the action again. In the days when forms of action, e.g. detinue (q.v.), trespass (q.v.), were so highly technical and the slightest verbal slip in the pleadings endangered the whole action, N.-Ss. were frequent, but since the legal reforms of the last century such unsubstantial formalities, and together with them N.-Ss., have been abolished. Popularly, the expression N.-S. is used to denote the fact of the judge having withdrawn a case from the jury either of his own motion or because counsel for the defendant has satisfied him that in law there is no case to answer or no evidence against his client (see also Nolle Prosequi). There is no formality to be observed, and the submission that there is no case can be argued at any stage of the proceedings.

Noodt, Gerhard (Geraert), (1647-1725), a noted Dutch jurist. He was professor of law at Francker (1679), at Utrecht (1684), at Leyden (1686), and rector of the university there. works include Probabilia Juris Civilis (1674-9); De Jure Summi Imperii . . . (1705). Barbeyrae translated

two of his political treatises into French (1707, 1714). His collected works appeared at Leyden in 1724, 1735, 1767 (the last two containing a Life by Barbeyrac.).

Noonivak, or Nunivak, an is. 70 m. long, off Cape Vancouver, Alaska;

the district is very hilly.

Noordwijk, a com. in the prov. of S. Holland, Netherlands, and is 5 m. N.W. of Leyden. Pop. 6302. Nootka, or Moatcaht (Mowaohaht), a tribe of the Aht, a division of the Waluschen ("good) stool of N. American Company ("good) stool of N. American ("

a tribe of the Aht, a division of the Wakashan ('good') stock of N. American Indians. They dwell on the W. coast of Vancouver Is., near Nootka Sound, and in S. British Columbia. They number only about 2500, many being professedly Christians. The Makaw or Kwakiutl, who settled in Washington are abrayeh of the same Washington, are a branch of the same linguistic stock (Haeltzuk division).

for the cochineal insects. It grows to a height of 8 to 10 ft. and bears scarlet flowers on leafless and spineless green stems.

Norberg, a vil. in Central Sweden, owning iron and copper mines. It is 30 m. distant from Vesteras. 6360.

Norbert, St., was born in Picardy towards the end of the 11th century,

In 1120 he founded the Premonstratensians, an order of Augustinian canons, and later became Archbishop of Magdeburg. He was canonised in 1584. See PREMONSTRATENSIANS.

Norcia, a com. and bishop's see of Italy, in the prov. of Perugia, 29 m. from Terni. Bricks. cloth. and Bricks, cloth, and manuf. Pop. 9600. earthenware are manuf.

Nord, the most northerly dept. of France, adjoining Belgium, and washed by the North Sea: formerly prov. of French Flanders. The greater part of the surface is flat, fertile, and well cultivated, watered by the Scheldt and the Sambre. The inhabitants are half Flemish, and half French-speaking Walloons. The chief agricultural products are wheat, oats, potatoes, sugar-beets, flax, chicory, and some tobacco. Stock-raising and fishing are important industries. The town of Valenciennes lies in the centre of the richest coal-field in France. N. is one of the leading manufacturing departments, making iron and steel goods, beet sugar, glass, chemicals, machinery, textiles, and porcelain. Cap. Lille. Area 2228 sq. m. Pop. 1,961,780.

Norddeutscher Lloyd (North German Lloyd), a leading German steamship line, was inaugurated by Herr H. H. Meier, a citizen of Bremen, who in 1857 induced the various shipping industries of the town, the Weser Haute Steamship Company, the Unter Weser, and Ober Weser Steam Tug Companies, and the Ober Weser Universal Shipping Insurance Asso-ciation. to amalgamete ciation, to amalgamate under the name of the N. L. In 1881 the first of the company's Atlantic service boats was built, and from that time until the present its prosperity has increased. From the headquarters at bremen, many lines of steamers run to New York, Baltimore, Brazil, Galveston, the R. Plate, etc. Im-perial mail steamers run between Bremen and Hamburg, Bremen and E. Asia, Bremen and Australia, etc. There is also a Chinese coasting trade Nootka Sound, a harbour of the of considerable magnitude. In 1891 Pacific Ocean, on W. coast of Van-the company had seventy boats,

Norden: 1. A suburb of Rochdale, Lancashire, England. 2. A tn. in the prov. of Hanover, Prussia, 4 m. from the North Sea coast. Pop. 6891.

Nordenfelt - Palmerantz Gun,

Machine Guns. Nordenflycht, Hedwig Charlotta (1718-63), a Swedish poetess, born at Stockholm. She founded the first Swedish 'salons,' after the fashion of the 'salon' then popular in France, and under the names of 'Urania' and

the 'Aspasia of Sweden' was the foundress and moving spirit of the Society' Utile Dulci.' Her first publication was Den Sörjande Turturdufran. an elegy on the death of her husband who died within a year of their marriage (1743). She published the poetical annual Qvinligt Tankespel, 1744-50, and among her other works are In Defence of Women, 1763; Solitude and Calm.

Nordenham, a small German seaport, Oldenburg, Germany, on the l. b. of the Weser, 5 m. S.W. of Geeslemunde. Pop. 7836. Nordenskjöld, Nils Adolf Erik, Baron

(1832-1901), a Swedish geographer and explorer, born at Helsingfors, Finland. In 1853 he went to study the iron and copper mines at Tagilsk, and was appointed lecturer at the university on his return, but was dismissed on account of his political views in 1855, when he went to Berlin. In the following year he won the travelling stipend of the University of Helsingfors, and in 1857 took his master's and doctor's degree. He was, however, obliged to leave the city again on account of his politics, and deprived of the right of holding office the university, whereupon settled at Stockholm. He afterwards made several noteworthy voyages in the Arctic regions with Tonelli in 1861, 1864, 1867, 1872, and 1875-76. In 1878-79 he made the North-East-ern passage, starting from Karlskrona. On his return to Sweden he was made a baron and commander of the Order of Nondsjeuns. In addition to his exploration he made a valuable contribution to the science of geographical research, particularly in his work Perillus (1897). He died at Stockholm.

Nordenskjöld Sea, the name given to that part of the Arctic Ocean which washes the shores of the Taimyr Peninsula and New Siberian Islands.

Norderhov, a com. in the prov. of ristiania, S. Norway, situated Norway, Christiania, between the Tyri Fjord and the Rands Fjord. Pop. 8500.

Norderney, the most important of the E. Frisian islands, in the North

whilst in 1910 it had 176, aggregating Hanover. It is 8 m. long, 11 m. broad, 752,037 tons. Hanover. It is 8 m. long, 11 m. broad, with an area of 8 sq. m. It is the most popular of German seaside resorts. the average annual number of visitors

Norfolk

being 25,000. Pop. 4261.
Nord Fjord, an inlet on the W. coast of Norway extending for about 50 m. inland; it enters the sea by two mouths, the Faa Fjord and the Fröi Fjord. The scenery is beautiful.

Nordhausen, a tn. of Prussia in the prov. of Saxony, 60 m. from Halle, with distilleries and numerous manufactures. Pop. 32,582.

Nordkyn Cape, 45 m. E. of North Cape, in 71° 5' N., is the most nor-

therly point in Europe.

Nördlingen, a tn. în Bavaria, situated on the Eger, and 40 m. distant from Augsburg by rail. It was at one time a free city, and is still shut in by walls and towers. Among the various objects of interest are some paintings by Hans Schäufelein, a tower 290 ft. high, and a town hall in late Gothic style. Pop. 8706.

Nordmaling, a com. in the prov. of Vesterbotten, Sweden, on the Gulf of Bothnia, 33 m. S.W. of Umea. Pop.

10,172.

Nordre-Bergenhus, a prov. of Norway on the Atlantic. Area 7136 sq. m. Pop. 89,972

Nordre-Trondhjem, a prov. of Norway, between Sweden and the Atlantic. Area 8696 sq. m. Pop. 84,993. Nore, The, a sandbank at the mouth of the R. Thames, marked several by buoys and by lightships with revolving lights, to warn ships from approaching too closely. The Nore light floats over the E. end of the sandbank 4 m. N.E. of Sheerness. Mr. Hamblin placed the first light here in 1731. The celebrated Nore Mutiny occurred in the vicinity

in 1797.

Norfolk: 1. A maritime co. of E. England, on the North Sea. The coast-line is mainly flat and low, though in places the cliffs reach the height of 200 ft. In parts the sea has much encroached, though near Lynn land her been religioned. land has been reclaimed. There are few inlets, and owing to the numerous sandbanks the coast is danger-Yarmouth and Lynn are the principal ports. The fine climate and long stretches of sand have made Yarmouth, Cromer, Hunstanton, etc., favourite watering-places. The surface is for the most part level, and includes in the W. part of the Fen Country (q.v.) known as the Bedford Level. The principal rivers are the Yare and the Great Ouse, with their tributaries. One of the chief features of the county is the Broads (q.v.), a series of beautiful lakes famous for their fishing and water fowl, and also Sea, belongs to the Prussian prov. of for the boating, annual regattas

being held. Building stone, local known as 'Gingerbread Stone' Building stone, locally the at Snettisham and quarried neighbourhood, clay is dug for bricks and tiles at Hunstanton, Snettisham, etc.; limestone is quarried at Marham, and flints are worked for facing walls, The soil is extremely varied; chalk, sand, and loam being prevalent Agriculture in different districts. flourishes; oats, wheat, and barley being grown in great quantities. Cattle are extensively reared, and the green crops consequently include turnips and swedes; beans are also grown, and some fruit. The principal manufs. are cloth (worsted having taken its name from Worstead), silk and wool weaving, and boots and shoes. There are a number of flourmills and mustard works; agricul-tural implements are made; tanning, malting, and brewing are also carried on; and there are fisheries at Yarmouth. Sandringham is a royal country seat, and there are many fine churches, especially the beautiful Norman cathedral at Norwich (q.v.), originally part of a Benedictine mon-astery. At Castle Rising there is a fine Norman church and also the ruin of a Norman castle, while Norwich Castle is still in good preservation. The county originally formed part of East Anglia, and suffered many in-cursions from the Danes. The county is divided into thirty-three hundreds and six parliamentary divisions, each returning one member. The area is 2018 sq. m. Pop. 488,630. See W. A. Dutt, Norfolk: and Victoria County History, Norfolk: 2. A city and port of Norfolk co., Virginia, U.S.A., on Chesapeake Bay. It exports coal, cotton, lumber, and tobacco, and manufs. hosiery, cotton, silk, and machinery. It also has a large trade in peanuts. Pop. (1910) 67,452. 3. Atn. of Madison co., Nebraska, U.S.A., 96 m. N.W. of Omaha. Pop. 6025. returning one member. The area is 96 m. N.N.W. of Omaha. Pop. 6025. Norfolk, Henry Fitz-Alan Howard,

fifteenth Duke of, see HOWARD.

Norfolk, Hugh Bigod, first Earl of
(d. 1177 or 1176), received his earldom
as a reward for his assistance to
Stephen in obtaining the English
crown. He was noted for his treachery
and double dealing, even in the faithless age in which he lived. In 1169 he
was one of the nobles excommunicated by Becket, and in 1175 was
obliged to forfeit his castles. He is
supposed to have died in Delectine

supposed to have died in Palestine.

Norfolk, Roger Bigod, second Earl of (d. 1221), was the son of the first small power, but he was in favour during all Richard's reign, other stars being ambassador to France on one occasion. He retained his power Fleming on a during John's reign, save for a short!

Bailey (1893).

interval in 1213, but was excommunicated by Innocent II. as one of the twenty-five executors of Magna Charta. On the accession of Henry III. he regained his honours, and his hereditary right to the stewardship of the Royal Household was recognised.

Norfolk, Roger Bigod, fourth Earl of (d. 1270), marshal of England, was one of the members of the party of reform in opposition to Henry III. He was ambassador at the Conference of Cambray in 1258, but in the following year the dissensions of the barons caused him to transfer his allegiance to the side of the king. In 1265 he was one of the five earls summoned to the parliament.

Norfolk, Roger Bigod, fifth Earl of (1245-1306), marshal of England, was one of the leaders of the nobles in their struggle against Edward I. He and Bohun, Earl of Hereford, were foremost in refusing to go on foreign service unaccompanied by their sovereign. In 1297 they secured the Confirmation of the Charter, which was ratified by Edward at Ghent, and in 1301 signed by him in person.

Norfolk Island, in Pacific, about 400 m. N.N.W. of New Zealand, was first discovered by Captain Cook in 1774, and was shortly afterwards made a penal settlement. Then it was occupied by the Pitcairn islanders, who, however, soon deteriorated, owing to intermarriage. The island is now under the control of New South Wales, and is the headquarters of the Melanesian Mission, which was inaugurated in 1867. The island is 5 m. long and 2½ m. broad, and comprises an area of nearly 13½ sq. m. The soil is fertile, yielding fruits of all kinds, such as oranges, lemons, figs, grapes, pine-apples, etc. The Norfolk pine (Araucaria excelsa) (q.v.) is a lofty tree, growing to a height of 200 ft. and measuring 30 ft. in breadth. The coast of the island is steep and rugged, and the highest 'peak is Mt. Pitt (1050 ft.).

Norham, a par. of Northumberland, England, on the r. b. of the Tweed, 7½ m. S.W. of Berwick-on-Tweed. It has a ruined castle. Pop. (1911) 700.

Noricum, in ancient geography, was a territory which became converted by Cæsar into a prov. towards the end of the first century. It corresponds to the present provs. of Salzburg, Carinthia, and Styria.

of the first century. It corresponds to the present provs. of Salzburg, Carinthia, and Styria.

Norma (the Rule or Square), a small and unimportant southern constellation, catalogued by La Caille, 1752, the brightest star, 4.6; seven other stars between 4.6 and 5.5. A new star was recognised by Mrs. Fleming on a photograph taken by Bailey (1893).

line drawn from any point on a curve, in its plane, at right angles to the tangent at that point, or a line drawn from any point on a curved surface at right angles to the tangent plane at that point.

Normal Schools. seeTRAINING COLLEGES.

Norman, Sir Henry (b. 1858), a traveller and author, born at Leicester. A great traveller, having visited China, Japan, America, Russia, and many other countries. He was made secretary of the Budget League in assistant andpostmaster-1909, and assistant postmarks general in 1910. Amongst his published works are: An Account of the Harvard Greek Play, 1881; The Preservation of Niagara Falls, 1882; and The Real Japan, 1892, etc.

Norman, Sir Henry Wylie (1826-1904), an English field-marshal. He took an active part in the Indian Mutiny, being present at Delhi, and at the relief of Lucknow. He was made governor of Jamaica in 1883; gover-nor of Queensland in 1888, and governor of the Royal Hospital, Chelsea, in 1901. He was made a

field-marshal in 1902.

Norman Architecture, see ARCHITECTURE—Norman.

Normanby, a tn. in the N. Riding of Yorkshire, 31 m. S.E. of Middles-brough. Has ironworks, and manufs.

bricks and glass. Pop. (1911) 10,003. Normanby, Marquises of, see SHEF-FIELD, JOHN, and PHIPPS, CONSTAN-TINE HENRY; PHIPPS, GEORGE GEORGE AUGUSTUS.

Norman Conquest (1066-69). This movement really originated in the accession of Edward the Confessor to the throne of England. This prince had spent the greater part of his life in Normandy before his accession to the throne of England. On the ex-tinction of the Danish dynasty he had been recalled to the throne of England as the nearest representa-tive of the Saxon line. His early education made him particularly susceptible to Norman influence, and during the greater part of his reign a constant intrigue went on between Norman and Saxon court parties for the succession to the throne. Towards the end of his life he came under the influence of the Saxon party, and finally nominated Harold Godwinson as the heir to the crown. Before his death, however, the following incidents had taken place. During

Normal, in geometry, is a straight lease until he had sworn an oath that he would endeavour to obtain its plane, at right angles to the tongent at that point, or a line drawn om any point on a curved surface at that point on a curved surface at the tongent plane at the tongent plane at the corresponding to the tangent plane at the tangent plan began to prepare for an invasion. He landed at Pevensey Bay in Oct. 1066, and was met at Hastings by Harold's army, which had already practically worn itself out at the battle of Stamford Bridge and by the hurried The Normans were vicmarch S. torious, and Harold was slain. impossible to enter into the details of the actual conquest here, but we can safely say that by 1072 England lay conquered at the feet of William. The Normans became the owners of the land, and the Saxons were treated—at first, at any rate—as a con-quered race. But the continental wars in which the Normans were constantly engaged rendered them increasingly dependent on English co-operation, and estranged them in an equal degree from their former compatriots in France; so that within two centuries the distinction between Norman and English was obsolete in England. At the same time, both English blood and English manners were improved by mixture with a higher civilisation; while the perfection to which the ruling race had brought their feudal system helped to strengthen the central power and to unify the nation. See WILLIAM THE CONQUEROR.

Normand, Mrs. Ernest (née Hen-rietta Rae) (b. 1859), an English painter, born in London. She ex-hibited her first picture in the Royal Academy when twenty-one. She has received medals from Paris and the Chicago Exhibition. Amongst her later pictures may be mentioned the fresco in the Royal Exchange (1900), 'Abelard and Heloise,' 1908; and 'Hylas and the Water Nymphs,' 1910.

Normandy (Fr. Normandie), formerly a prov. in the N. of France bordering on the English Channel, now divided into the depts, of Seine ulvados, and

very fertile,

esembling a garden in many districts. Its chief agricultural products are corn, flax, and fruits (from which cider is largely made); its fisheries and manufactures of great importance, and its horses the best in the kingdom. The prinincidents had taken place. During the best in the kingdom. The printer the temporary exile of the Godwins, cipal towns are Roucen, Dieppe, William the Bastard had visited Edward and alleged that he held from Caen, Falaise, St.-Lo, Bayeux, Couhim a promise that on his (Edward's) demise he should come to the throne of England. He had also held Harold time of the Romans the country bore a prisoner and had refused him re-the name of Gallia Lugdunensis II. under the Frankish monarous it formed a part of Neustria, and was first called N. after Charles the Simple, in 912, had given it to Rolf or Rolo, the leader of a band of Norse rovers (see Norsemen), to be held by him and his posterity as a set of the Franch crown His descendfief of the French crown. His descendant, William II., son of Robert II., became Duke of N. in 1036, and in 1066 established a Norman dynasty on the throne of England (see WILLIAM THE CONQUEROR). In 1077 his eldest son, Robert, wrested N. from him, but it was again united to England under Henry I. in 1105. Henry II., the son of Henry I.'s daughter, Matilda, after the death of Stephen matina, after the death of Stephen of Blois, obtained in 1154 the govern-ment of England and N.: but in the reign of his son, John Lackland, it was conquered by Philippe Auguste (1203-4). It remained a portion of the French monarchy for more than 200 years, but after the battle of Agincourt (1415) it was reconquered by the English, who held it till 1449, when it was finally wrested from them by Charles VII. See Felice's fromSee Felice's La Basse-Normandy, 1907. Norman-French, a French dialect

which originated after the settlement of the Scandinavian invaders, under Rollo, in Normandy, about 911. It was introduced into England at the Conquest, and is known as Anglo-French, differing from N. as spoken in Normandy by the use of Saxon words for ideas for which there was no French word. N. was the language of the court for several centuries, and was used for law reports until the middle of the 16th century. In 1362 a statute ordained that pleadings should be in English, but should be enrolled in Latin, but the language of the statute book was still French in 1483. The earliest important law treatise in N. is Britton (1291) and the latest Littleton (1481) A considerable latest Littleton (1481). A considerable amount of literature, poetry, and prose in N. has been preserved. Skeat, Principles of English Etymology (2nd series), 1891.

Madame, Norman - Neruda,

Halle, Lady.

Normanton, a tn. in the W. Riding of Yorkshire, situated on the Calder, 24 m. from York. Besides an old Norman church, there are traces of a Roman encampment in the vicinity. Pop. (1911) 15,033.

Normanton, South, a par. of Derbyshire, England, 61 m. from Mansfield. Pop. (1911) 5200.
Norns, in Scandinavian mythology,

is the name given to three maidens who symbolise the past, present, and future, and are called Urd, Verdandi, and are also occupied in watering the shipbuilding yards. Pop. 46,000.

Under the Frankish monarchs it root of Igdrasil, the tree of life, by means of the Holy Urdar Fount.
Noronha, Fernando de, see FERNANDO DE NORONHA.

Norrbotten, the largest and most northerly prov. in Sweden. Area 40,870 sq. m. Pop. 159,000.

Norris, Frank (1870 - 1902), an American novelist, born at Chicago. He was at one time war correspondent out in S. Africa for a San Franciscan journal. His novels include: The Octopus; The Pit; Blix;

M'Teague; and A Deal in Wheat.
Norris, John (1657-1711), an English writer and poet, born at Collingborne-Kingston, in Wiltshire. He was rector of Bemerton Church, near Salisbury, for twenty years. He was an idealist and a student of Plato and Malebranche. His published works include: An Essay towards a theory of the Idealor Intelligible World; Poems His published works and Discourses; Reason and Religion; and Discourse concerning the Natural Immortality of the Soul.

Norris, Sir John (1660?-1749), a He distinguished British admiral. himself under Shovell in the battle off Malaga (1704) and in the taking of Barcelona in 1705, for which services he was knighted, as well as receiving a sum of 1000 guineas. In 1739 he was appointed admiral and commander-in-chief of the English fleet. He re-

tired from active service in 1744. Norris, Newman, Lt.-Col. Charles, L.W.M.(b.1852), was bern at Elvington Hall, Yorkshire, and has rendered valuable services both abroad and at home by means of his sword and his pen. He served under General Gordon in Egypt, was present at the campaigns in the first Transvaal War, in Basuto-land, Matabeleland and Central Africa. He has been war correspondent on several occasions, and has won many medals and military distinctions

Norris, William Edward (b. 1847), an English novelist. He was called to He has ead.

among which Yellow, 1876; 1897;

Flower of the Flock, 1900; Nature's Comedian, 1904; Harry and Ursula, 1907; Pauline, 1908; Not Guilty,

Norristown, a bor. of Montgomery co., Pennsylvania, U.S.A., on the Schuylkill R., 18 m. N.N.W. of Philadelphia. There is a good trade in textiles. Pop. (1910) 27,875.
Norrköning a to and port of

Norrköping, a tn. and port of Sweden in Ostergötland, 113 m. from Stockholm, on both banks of the R. Motala. The town is quite modern in appearance. There are cloth and cotton mills as well as

Norrland, one of the three territories of Sweden, and includes the counties of Norrbotten, Vesterbotten, Vesternorrland, Jämtland, and Gefle-

borg. Area 98,771 sq. m.

Norsemen, in the strictest sense of the word, denotes the early dwellers in Norway; but the application of the term is sometimes extended to all the people of Scandinavia. These people. who began to leave their own country on plundering expeditions about the middle of the 8th century, were more or less compelled to do so by the existing conditions. The country was over-populated, and a warlike career was attractive while the men of power subdued their less fortunate brethren. These combined factors were, in a large measure, responsible for the Norse invasions of Europe which began on the E. coast of England in the year 787. Known to the English as 'Danes,' they were almost subdued by Alfred the Great; but they conquered this country early in the 11th century, under Cnut. It was about the beginning of the 9th century that they also visited the islands off Scotland, including the Hebrides, Orkney, and Shetland. In Ireland they were also very powerful, and about \$40 were masters of most of the northern part of that country, founding their large measure, responsible for the part of that country, founding their kingdom of Dublin. They extended their inroads to the Faroe Isles and Iceland about the end of the 9th century, and eventually visited Greenland and a place called Vinland, which was possibly a locality somewhere on the Canadian coast. They likewise met with success on the Continent, and during the first half of the 9th century pillaged the land of the Frisians and Flanders. In the year At they established themselves on the R. Loire, and a few years later had planted camps on most of the French rivers. They obtained posses-sion of Paris in \$45 (sacking the city), and again on three later dates. \$59 and \$60 they sailed into the Mediterranean Sea, attacking Spain and the islands near and settling on the R. Rhône. A short time after they arrived in Italy, and continued to plunder towns. In the year 912 Rollo was made by the French king the owner of the duchy of Normandy (q.v.); owner of the duchy of Normandy (q.v.); it was from this that the future conquerors of England had their beginning. See Georg B. Depping, Histoire des Expéditions Maritimes des Normands et de leur établissement en France au dixième siècle, 1826; O. Delarc, Les Normands en Italie, 1883; P. B. du Chaillu, The Viking Age, 1891; C. F. Keary, The Vikings in Western Christendom, A.D. 789 to A.D. 883, 1891; I. Fischer, Die Ent deckun-888, 1891; I. Fischer, Die Ent deckungen der Normannen in Amerika, 1902.

North, Christopher (Scottish author), see Wilson, John.

North, Frederick, second Earl of Guilford, better known as Lord North (1732-92), a statesman, entered parliament in 1754, and was a Junior Lord of the Treasury from 1759 until 1766. in which year he became Joint-Paymaster of the Forces. In 1767 he became Chancellor of the Exchequer and Leader of the House of Commons in the Grafton administration, and three years later he became Prime Minister. In that high office he acted as the mouthpiece of the king, who as the mouthpiece of the king, who ruled the House of Commons by bribes and threats, and, by appeals to his loyalty, induced N. to carry out his will. N. was opposed to the American War, but allowed the king to influence him against his better to influence nim against his better judgment. He resigned in March 1782, but with Fox formed a government which endured from April to Dec. 1783, after which he did not again hold office. He succeeded to the earl-dom in 1790. An able financier, he was a weak man, and responsible for much of the troubles that arose in the aculiar vages of the roign of in the earlier years of the reign of George III.

North Adams, a city of Berkshire co., Massachusetts, U.S.A., on the R. Hoosac, 52 m. N.W. of Springfield. It carries on woollen manufactures as well as a boot and shoe trade. Pop.

(1910) 22,019.

Northallerton, a market tn. in the N. Riding of Yorkshire, 40 m. N. of Leeds. It is the site of an old Roman All Saints' Church dates from the 12th century. Leather goods, linoleum, and motor cars are manufactured. Pop. (1911) 4806.

Northam: 1. A par. of Devonshire, England, 1½ m. N.W. of Bideford, Pop. (1911) 5500. 2. A tn. in York co., W. Australia, 54 m. E.N.E. of Perth. Pop. 2000.

North America, see AMERICA. ALASKA, CANADA, and UNITED STATES OF AMERICA.

North American AMERICAN INDIANS. Indians.

North American Review. This celebrated critical review, which is reputed to be the oldest magazine in the world, was the lineal successor of The Monthly Anthology, which was begun by Phineas Adams in 1803, and which shortly after passed into the control of the Rev. William Emerson, the father of Ralph Waldo Emerson. The Anthology, though its life was short, undoubtedly created a demand for high literature, and paved the way for the N. A. R., the first number of which was published by William Tudor, its first editor, in 1815. It thereafter enjoyed a most 1815. triumphant career, practically every

notable American writer, together fire. Pop. (1911) 90,076. 2. A city in with some of the greatest lights of contemporary thought in England, on the r. b. of the Connecticut R., 8 m. having at one time or another contributed to its columns. One of its silk, brushes, cutlery, etc. There are most celebrated editors was James the Smith () it of the Connecticut R., 8 m. having at one time or another contributed to its columns. One of its silk, brushes, cutlery, etc. There are Russell Lowell (1862-72), who used the Review as the medium of publication of most of his prose writings. Other editors have included a U.S. Secretary of State, two ministers to Great Britain and Spain, and ministers to Russia, China, Brazil, and the Netherlands, together with two presidents of Harvard College. It claims without injustice to be the recognised channel in America for the most comprehensive discussions of important public questions: a character which it acquired under the editorship of Allen Thorndyke Rice, who purchased it in 1877, and was editor for twelve years. Rice drew his contributions not, as his predecessors had done, from American writers only, but from every part of the world. The great religious con-troversy between Cardinal Manning, Gladstone, and Colonel Ingersoll; the between Gladstone argument Blaine on the rival merits of free trade and protection: the debate between Edison, Westinghouse, and Lord Kelvin on the possible dangers of distributing electricity through cities for lighting purposes; the Home Rule controversy between Parnell and Mr. Balfour, were all discussed by their great advocates in the N. A. R. Its present editor and proprietor, Colonel George Harvey, has occupied that position since 1899.

Northampton: 1. Cap. of the co. of the same name, a market tn., and parl. co. and municipal bor., on a rising ground on the l. b. of the Nen, 67 m. N.W. of London by railway. In the centre of the town is a spacious market square. The principal edifices are the shire hall, the grammar school. the town hall, the corn exchange, the numerous churches, several of which are unusually are unusually interesting, as St. Peter's, a restored and beautiful specimen of enriched Norman, and St. Sepulchre's, one of the very few round churches in the empire, and supposed to have been built in the 12th century. Boot and shoe making is the staple industry. Leather, hosiery, and lace are manufactured. Iron and brass foundries are in operation, and brewing is carried on. Races take place here every year in March. Two members are a to the House of Commons. Two members are returned to the House of Commons. N., a very ancient town, was held by the Danes at the beginning of the 10th century, and was burned by them in 1010. After the Conquest, it was bestowed on Simon de St. Liz. In the

1500.

Northampton, Spencer Joshua Alwyne Compton, second Marquis of (1790-1851), an English man of letters and politician, born in Wiltshire. In 1812 he entered parliament, and was associated with Wilberforce in the anti-slavery campaign; he also assisted Sir James Mackintosh in his efforts towards the reform of criminal law. In 1820 he retired to Italy to live, in 1828 he became the second Marquis of Northampton on the death of his father, and in 1830 he returned to England. From 1838 to 1849 he was president of the Royal Society; he also filled the same post in the Geological Society for some time. published a volume of poems.

Northampton, William Parr, Marquis of (1513-71), was the brother of Catherine Parr, the sixth wife of Henry VIII. He was created Earl of Essex in 1543 and Marquis of Northampton in 1647 Marquis of Northampton in 1547. He played an important part during the reign of Edward VI., supporting the cause Edward VI., supporting the cause both of Somerset and Northumberland. On the death of Edward VI. he favoured the accession of Lady Jane Grey, and as a consequence was condemned to death, but the sentence was afterwards commuted to the forfeiture of his titles and estates. On the accession of Elizabeth he was again taken into favour and was created marquis for a second time in 1559.

Northamptonshire, a midland co. of England. The surface is mainly level or broken with low hills, and the scenery is beautiful and well wooded, the county being famous for its trees. It includes part of the Fen country (q.v.), what is known as the 'soke ' of Peterborough being land reclaimed from the Fens. The principal rivers are the Avon, Nene, Welland, Cherwell, Leam, and the Ouse. Ironstone, limestone, and clay are worked, and a particular kind of building-stone known as Weldon or Stamford marble. The mild climate and level surface, in addition to a rich soil, are admirable for agriculture, and almost the whole of the county is under cultivation. Farming of all kinds flourishes, wheat and barley being the principal crops, while cattle and sheep are reared ex-17th century it suffered from flood and | tensively. Apart from agriculture the

borough, etc., and the manufacture of boots and shoes, Northampton being the centre of the trade for England. The county is divided into four parliamentary divisions, each returning one member. It was originally included in the Mercian kingdom, and was part of Tostig's earldom in the 11th cen-Earthworks and Roman remains have been found, and Watling Street and Ermine Street both cross the county. In 1215 the barons besieged Northampton Castle, held by King John, and in 1624 the castle was wrested from the younger Simon de Montfort by Henry III. Henry VI. was defeated at Northampton during the Wars of the Roses, and later the famous battle of Naseby (1645) took place in the county. There are few monastic remains, the most important heing the Abbey Church of Peter-borough (Medeshamstede), now the cathedral (Norman), commenced by Penda in 665; but there are some beautiful churches of Norman date. The ruins of Fotheringay Castle, so famous in connection with Mary Queen of Scots, are also in the county. The area is 909 sq. m. Pop. (1911) 363.892. See Victoria County History, Northamptonshire.

North Andover, a tn. in Essex co., Massachusetts, U.S.A. The chief trade is in wool and machinery. Pop. (1910)

5529.

North Attleboro, a tn. of Bristol co., Massachusetts, U.S.A., with important jewellery trade. Pop. (1910) 9562-n North Australia, see Northern

TERRITORY.

North Bay, a tn. and watering-place of Ontario, Canada, on Lake Nipissing, 190 m. N. of Toronto. Pop.

4000.

North Berwick, a seaside resort and royal bor. of Scotland, in Haddington co., 22½ m. (by rail) E.N.E. of Edinburgh. It has become popular as a watering-place, having a good beach and fishing, and two fine golf courses. It was made a royal burgh by Robert III.; the ruins of a Cistercian abbey founded by David I. are in the neighbourhood. One mile to the S. is the hill called North Berwick Law, rising to 612 ft.; 3 m. to the E. of the town are the ruins of Tantallon Castle (14th century), whilst 2 m. to the S.W. is Dirleton Castle (12th century). Pop. (1911) 3247.

North Brabant, see Brabant. North Braddock, a bor. of Pennsyl-

vania, U.S.A., in Allegheny co., 9 m. S.E. by E. of Pittsburg. There are manufs. of steel rails. Pop. (1910) 11,824.

Northbridge, a tn. in Worcester co., Massachusetts, U.S.A., 11 m. S.E. of and rosin are also flourishing trades.

main industries are the iron works Worcester. It is engaged in the carried on at Kettering, Welling-manuf. of cotton goods. Pop. (1910)

North

North British Railway Company was incorporated in 1844 for running a railway between Edinburgh and Berwick; since then it has amalgamated with about fifty companies. The lines run from Edinburgh to Carlisle on the S., to Glasgow on the W., to Fort William on the N.W., and to Dundee, Montrose, and Bervie on the N.E. The total length of line is 1243 m. exclusive of 281 m. owned in conjunction with other companies; the company also owns a small fleet of steamers. The Forth and Tay bridges were originated by the company. The number of directors is sixteen. The authorised capital, including loans, is £68,685,089, of which £19,418,131 represents the nominal loans, increase of capital resulting from the conversion and rearrangement stocks. The company's offices are at 23 Waterloo Place, Edinburgh. Northbrook, Earl of, see BARING.

North Cachar, a dist. of Assam, India. Area 1800 sq. m. Pop. 40,000.

North Cape, a headland on the island of Magerö, Norway. It is, with Knivskjarödde, which is slightly farther N., the most northerly point of Europe, being in lat. 70° 11' N. The most northerly point on the Continent itself, however, is Cape Nordkyn.

North Carolina, a South-Eastern Atlantic state of U.S.A. The state is divided topographically into three distinct zones: the Coastal Plain Region in the E., the Piedmont Plateau Region in the centre, and the Appalachian Region in the W. The Coastal Plain is fringed by a margin of swamps and shoals which are extremely treacherous to navigation. The largest of these swamps is known as Dismal Swamp. The Coastal Plain is remarkably level. The Piedmont Plateau Region is bold and somewhat Plateau Region is bold and somewhat rugged in contour. The chief ranges of the Appalachian Mt. Region are the Blue Ridge and the Unaka Mt. Range, The highest peak of the Unakas is Mt. Mitchell (6711 ft.). The mountains of this region are for the most part clothed with dense forests. The scenery is exceptionally beautiful, and attracts numerous southerners in summer and northerners in winter, The soil is uniformly fertile, and the climate healthy. The minerals of N. C. are exceptionally rich, and include iron, copper, silver, lead, zinc, coal, granite, marble, gems, etc. The chief products are cotton, wheat, oats, maize, tobacco, and potatoes. N. C. is sometimes called the turpentine state owing to the large quantities of turpentine which it exports. Tar

is prospering. Fisheries in the state are valuable. The capital of the state is Raleigh, and the chief port and largest city is Wilmington. The population consists of Americans, English, Germans, Negroes, Indians (Chero-kees), and Chinese. Area 52,426 sq.m. Pop. (1910) 2,206,287.

Northcliffe, Baron, see HARMS-WORTH, ALFRED CHARLES WILLIAM.

Northcote, Henry Stafford, Baron Northcote of Exeter (1846-1911), a statesman, was the second son of Sir Stafford Henry Northcote, first Earl of Iddesleigh. He entered the Foreign Office in 1868, and on various commissions acquired considerable ex-perience. In 1877 he became private secretary to his father, then Chan-cellor of the Exchequer, and in 1880 became a member of parliament. He held minor appointments until 1900. when he was raised to the peerage and made governor of Bombay, in which position he greatly distinguished himself. The Commonwealth of Australia was formed in 1901, and three years later N. went out as governor-general.

Northcote, James (1746-1831), an English painter, born at Plymouth. In 1773 he began his studies under Sir Joshua Reynolds, and at the Royal Academy schools. He went to Italy in 1777, and on his return to England he became famous as a portrait painter. In 1786 he was elected Assopainter. In 1750 he was elected Asso-ciate of the Academy, and his historic picture, 'The young Princes murdered in the Tower,' was completed in that year. This was followed by 'The Burial of the Princes' and 'The Beath of Wat Tyler.' The Entomb-ment' and 'The Agony in the Gar-den' are among his last works. Northcote, Sir Stafford, see IDDES-

LEIGH.

North Dakota, a N. central state of the U.S.A. The physical features of the state are bold and simple. Three vast table-lands rise successively from E. to W. Through the nethermost of these table-lands flows the Red R. Its mean breadth is 50 m., and its mean elevation is 900 ft. The second table-land has a mean breadth of 180 m., and a mean elevation of 1400 ft. In this plain are situated the Turtle Mts., which have an elevation of 400 ft. above the general level. The third and most westerly table-land is called the Coteau du Missouri, and covers half of the state. Its mean elevation is 27,000 ft. Its plateau is watered by the Missouri. Many of the coal seams in the Coteau du Missouri have become ignited through prairie fires, and emit smoke and fumes. Devil's Lake, or Minniwaukon, in the N.E., has no

Cotton and woollen goods are manu-outlet, and is salt. The valley of the factured, and the manufacture of silk Red River is very fertile, and produces fine wheat crops. Other crops are oats, maize, flax, rye, potatoes, buck-wheat, and hay. Cattle abound in the state ranches. The rainfall is low. The winters are cold but sunny. The cap. of N. D. is Bismarck; the largest town is Fargo. Area 70,795 sq. m. Pop. (1910) 577,910.

sq. m. Pop. (1910) 577,910. North Eastern Railway, one of the most important railways of England, originated in 1854; the York, New-castle, and Berwick Railway, the York and North Midland Railway, and the Leeds Northern Railway being then amalgamated under the above title. The Stockton and Darlington Railway (the most ancient of all railways) was taken over in 1863. The chief lines extend from Doncaster and York to Darlington, Durham, Newcastle, and Berwick-on-Tweed, Hull, Scarborough, Carlisle, etc., connecting with the Great Northern Railway between Doncaster and York and with the North British at Berwick, forming part of the East Coast route to Scotland. The total mileage of the company is (1913) 1680 m.; it also owns extensive docks at Hull, Middlesbrough, S. Shields, Hartlepool, Blyth, etc. The company has twenty directors, and an authorised capital, including loans, of £89,495,848. Of this £6,619,138 represents nominal addition by the consolidations effected in 1895 and 1896. It was on the N.E.R. Company's engines that J. Holden made his experiments with liquid fuel, which proved its commercial utility.

North East Passage, the route, finally found by A. E. Nordenskjöld in 1878-79, from Europe and the Atlantic through the Arctic Ocean round the N. coast of Asia to the Pacific

Ocean.

Northeim, a tn. in the prov. of Han-over, Prussia, 12 m. N.E. of Göttin-gen. It is engaged chiefly in brewing, tanning, spinning, milling, and in manufacturing sugar, tobacco, and cigars. Pop. 8625. Northern Circars, see Circars, the

NORTHERN.

Northern Lights, see LIGHTS, NORTH-

ERN. Northern Mythology, see MYTHO-LOGY.

Northern Nigeria, see NIGERIA Northern of France Railway Company (Chemin de Fer du Nord) was incorporated in 1845. The house of Rothschild was largely interested in it, and the English directors at the present time are Lord Rothschild and Baron Arthur de Rothschild. The principal lines run from Paris (Rue de Dunkerque terminus) to Calais, Boulogne, Rouen, Amiens, and to the

Northern of Spain Railway Com-pany (Caminos de Hierro del Norle) was incorporated in 1858, with head-quarters at Madrid. The lines run quarters at Madrid. thence to Irun on the French frontier, to Corunna and Gijon; whilst other lines run from Venta de Baños to Santander, from Bilbao to Lerida, Tarra-gona, and Barcelona. The total length of line is 2349 m., including about 42 in course of construction. The Paris office of the company is at 69 Rue de la Victoire, Paris.

Northern Province, see NILE Pro-

VINCE. Northern Territory, formerly Alexandra Land, is the name now given to the N. portion of S. Australia, N. of 26° S. and extending between 129° and 138° E., with a length of 900 m, and a breadth of 560 m. Theregion formerly belonged to New South Wales, but was annexed to S. Australia in 1863, and transferred to the Commonwealth in January 1911. Much of the country is desert, but near the coasts sugar-cane, cotton, and fruits are grown; mangrove trees are also found near the coast, and pine, fig, and orange trees in other The chief stream is the Roper R. The climate is tropical, the wet season lasting from November to April; the annual rainfall is about 60 in. Gold (over 7000 oz. in 1910), copper, wolfram, and tin are the chief minerals. Horses, cattle, sheep, and pigs are reared; pearl fishing is carried on near Melville Is. The prinexports are wolfram, gold, copper, hides and cattle, wool, pearl and tortoise shell. Palmerston is the capital, Port Darwin being an important town. Area 523,620 sq. m. Pop. 3000 (including Chinese, but exclusive of the diminishing aborigines

in the interior, estimated at 2000). Northers, cold dry winds which are prevalent during the winter months, and which blow usually over the Gulf of Mexico and the surrounding regions. They sometimes produce a sudden fall of temperature, and are often responsible for shipwrecks.

North Family. Among the prominent members of this distinguished family are: Edward North, first Baron North (1496-1564), Chancellor of the Court of Augmentation, who was raised to the peerage in 1554. Sir Thomas North (1535-1601), a man of letters, chiefly distinguished for his translations of Marcus Aurelius and Plu-

Belgian frontier (viû Valenciennes tarch's Lives, which latter work was and Lille). The length of line owned by the company is 2353 m.; the state guarantees a dividend of 54-1 francs (637-1685), a lawyer, Solicitor-per share per annum until 1914. The London correspondent of the company is A. Sine, Charing Cross Station, London, W.C.

Northern of Spain Railway Company (Caminos de Hierra del Norte) for the Customs, 1683, the author of Dudley North (1641-91), Commissioner for the Customs, 1683, the author of Currency, and an early exponent of free trade. John North (1645-83), professor of Greek at Cambridge, 1672; probendary of Westminster, 1673; master of Trinity College from 1673 until his death. Roger North (1663-1731) a leaver. 1734), a lawyer, the author of Lives of the Norths (Lord-Keeper North, Sir Dudley North, and Francis North), 1742-44. collected and edited by Henry Roscoe in 1826.

Northfield, a tn. in Franklin co., Massachusetts, U.S.A., 42 m. N.E. of Springfield. It is the birthplace of Dwight L. Moody; possesses a seminary and a training school, and is the condessor and the seminary and set the seminary and seminary semi the rendezvous of the annual summer conference of Christian Pop. (1910) 1642.

Northfleet, a tn. in the co. of Kent, England, 1\frac{1}{2} m. W. of Gravesend. It is engaged in shipbuilding, and in the manuf. of chemicals, cement, and bricks. Pop. (1911) 14,184. North Foreland, see FORELAND,

NORTH AND SOUTH.

North Foreland, Battles off the, were two battles of the first and second Dutch wars respectively, so called because they were fought near the N. F. The first battle commenced on June 2, 1653, between fleets commanded by M. H. Tromp and De Ruyter on the Dutch side, and Monck, Deane, Penn, and Lawson on the English. During the first day's fighting Deane was killed, but Blake came to the reinforcement of the English at night with eighteen fresh ships, and on the next day the Dutch were obliged to retire. had eleven ships captured and seven or eight sunk in the action. The second battle was one of the hardest fought and most disastrous battles of the second Dutch War. The English fleet, under the command of Monck, engaged the Dutch fleet, commanded by De Ruyter, in the Downs, on June 1, 1666. The fighting went on June 1, 1666. against the British, who eventually had to retire with a loss of twenty-one vessels against the Dutch loss of seven ships only, although the victors were not in much better plight than the vanquished.

North German Gazette (Ger. Norddeutsche Allgemeine Zeitung, literally N. German universal or general newspaper). This daily paper, which, during the days of Bismarck, was the mere megaphone of the Iron Chancellor's

nised as officially inspired at the present day rests on the fact that its intelligence is derived from Wolff's Telegraph Agency. As a medium of communiqués against France, prac-As a medium tically dictated to the editor by Prince Bismarck, the N. G. G. not only focussed the attention of Europe on its columns, but definitely established itself as the authoritative organ of the German government, a position which it only forfeited when the Chancellor ventured to attack the policy of the Emperor William I. In its origin it was an independent journal of markedly Socialistic tone.

North Ham, a vil. of Canada in Wolfe co., Quebec. Pop. 1400.
North Holland, see HOLLAND, NORTH.

North Kanara, see KANARA. Northmen, see NORSEMEN.

Northmen, see Norsemen.
North Park, one of the four 'parks of Colorado,' U.S.A., in Larimer co. Its area is 2000 sq. m., and it stands at a mean elevation of from 8000 to 9000 ft. It is noted for its big game. North Plainfield, a bor. of New Jersey, U.S.A., in Somerset co., 12 m. S.W. of Jersey City. Pop. (1910) 6117. North Pole, see Arctic Exploration.

TION. North Sea, or German Ocean, a European sea, bounded on the E. by the continent of Europe, on the W. by Great Britain; on the S. it is connected by the Strait of Dover with the English Channel and the Atlantic; and on the N. it extends to the Shetland Isles, joining the Norwegian Sea in the N.E. The N. S. is somewhat shallow, the Continent and Britain once being coterminous. Its mean depth is about 50 fathoms. The Dogger Bank stretches across Logger Bank stretches across the N. S. from E. to W. The coasts of the N. S. are mainly flat; the English coast consists of sandy cliffs and beaches, and the continental coast consists of marshes and protecting banks. The N. S. waters are composed of a mixture of Baltic water through the Skager Back Atlantic water the Skager Rack, Atlantic water through the Shetland-Faroe Channel, and Arctic water through the Norwegian Sea, and consequently there is great variety of temperature and salinity in various parts of the sea. The union of the northern tidal wave and that from the Strait of Dover sends high tides to London—a fact which is invaluable for shipping purposes. The Atlantic tides, which have

utterances, was established in Berlin the world. Trawl fishing is extenin the middle of the last century, and was for long known throughout of the sea, and yields vast supplies of Europe as a semi-official journal, haddock, cod, whiting, halibut, soles, Apparently its only claim to be recogively. haddock, cod, whiting, halibut, soles, brill, turbot, plaice, etc. Line fishing is practised in the deep waters. The courses of the herring shoals round Britain are remarkable. In Shetland. herring fishing commences in June. and later at various stages southward down the British coast till it ends in the late autumn and winter fishing off Norfolk. The maximum length is 600 m., and its greatest breadth is 400 m., its area is 162,000 sq. m.

North Sea Baltic Canal, see KAISER

WILHELM CANAL.

North Sea Fisheries Convention. In 1882 Great Britain, Germany, Dennark, Belgium, France, and Holland signed a convention regulating the police of the North Sea fisheries to waters 3 m. from the coast. The fishermen of each of these countries have the sole right of fishing within these

North Shields, see SHIELDS, NORTH North Sydney: 1. A residential suburb of Sydney, New South Wales, Australia. It is situated on the N. shore of Port Jackson, and it possesses one of the largest suspension bridges in the world. Pop. 22,000. 2. A scaport of Canada, on Cape Breton I., Nova Scotia, 8 m. N.W. of Sydney. It possesses 3000 ft. of quayage, and a depth alongside of from 15 to 28 ft, of water. Pop. 7000.

North Tarrytown, a vil. of West-chester co., New York, U.S.A., 26 m. N. of the city of New York, on the Hudson R. Near here is Sleepy Hol-low of Washington Irving's Legend of Sleepy Hollow, and it is also the burial-place of Twing. It passesses an old place of Irving. It possesses an old Dutch church, dating from 1699. Dutch church, c Pop. (1910) 5421.

North Tonawanda, a city in Nia-gara co., New York, U.S.A., on the Niagara R., 10 m. N. of Buffalo. Its greatest amount of trade is carried on in lumber, but it also manufs. iron, nuts and bolts, boilers and engines, and merry-go-rounds. Pop. (1910) Pop. (1910)

11,955. Northumberland, the most northerly co. of England. The coast-line is flat and sandy, the cliffs are low, and there are few inlets. There are several islands, the most important being Holy Is., or Lindisfarne, and the Farne Is. The surface from the low plains in the E. rises to a moorland region in the centre, and so upward to the Cheviot Range, reaching its greatest eleva-tion in Cheviot Peak (2676 ft.). The chief rivers are the Tweed, Aln, Coquet, Wansbeek, Blyth, and Tyne; a salinity of 35 pro nille, send out the Tweed being famous for its salmon considerable heat. The fisheries of fishing, and the Coquet for its trout. the N. S. are the most productive in In the S. lies the big coal-field; lead

and zinc are found, and building-stone | Scotia and New Brunswick. isquarried. Thesoil varies very much, and a large proportion is permanent pasturage. Oats and barley are the principal crops. Sheep rearing is carried on very extensively, there being a particular breed known as the Cheviots; cattle are also reared. The Tyne forms the great manufacturing centre, the industries including ship-building, iron-works, blast furnaces, rope-works, potteries, brickfields, and glass factories. Machinery and tools are also manufactured. North Shields is the centre of the sea-fisheries, and Hexham has a large glove factory. The Tyne has the largest coal-shipping trade in the world, Newcastle being the principal port. Other ports besides those on the Tyne are Blyth, Ambel, Alnmouth, and Berwick. The county is divided into four parliamentary divisions, each returning one member. \mathbf{The} county originally formed part of the Saxon kingdom of Bernicia, which became merged into the kingdom of Northumbria (q.v.) about the end of the 6th century. It suffered considerably from the border raids, but there are some fine old raids, but there are some and the buildings, notably Lindisfarne Priory (1093), Hexham Abbey Church, built over the crypt of Wilfred's Abbey of St. Andrew, and the castles of Alnwick, Dilston, etc. The county also wick, Dilston, etc. The county also includes such famous battlefields as Otterburn and Flodden Field, and is the home of the great Percy family. Area 2018 sq. m. Pop. (1911) Area 2018 sq. m. Pop. (1911) 697,014. See Victoria County History, Northumberland.

Northumberland, Dukes and Earls The first duke was John Dudley, who played an active part as a politician and soldier during the reign of Edward VI., and succeeded in overthrowing the Protector Somerset. He plotted the exclusion of Mary Tudor and the accession of Lady Jane Grey, who had married his son, Guildford Dudley. The plotfailed, however, and Northumberland was executed, as were later his son and daughter-inlaw. The title of the Earl of N. lay with the Percy family (first earl d. 1408). This family acted as the warden of the marches on the borders of Scotland. They supported Henry of Lancaster in his bid for the throne in Lancaster in his did for the throne in 1399; and later, considering his treatment of them after Homildon Hill, 1402, ungrateful, broke into rebellion. Henry Percy (Hotspur) allied with Owain Glyndwr, and was defeated. outside Shrewsbury (1403) whilst at-tempting to join his ally. The family name of the present ducal family is

130 m., breadth 8 to 30 m.

Northumbria, one of the greatest of the Anglo-Saxon kingdoms, situated between the Humber and the Forth, originally consisted of two inde-pendent kingdoms—Bernicia and Deira. Of the former kingdom Ida was the first ruler (547-559), and he was succeeded by his four sons, who ruled in succession. The first ruler of Deira was Ella, who flourished about 580, and was succeeded by Æthelfrith, who united the two kingdoms in 605. Edwin, son of Ella, defeated and slew Æthelfrith, and succeeded to the throne of N. He extended the frontiers of his kingdom to the coast (including Anglesey and Man), and during his reign the kingdom was the most powerful in England. After his death the kingdom was disintegrated, and did not recover its former power till Oswio became king of Bernicia and annexed Deira. Oswio won a victory over Penda of Mercia, and incorporated the northern part of Mercia re-Mercia in his kingdom. covered her territory in 658, and N. pushed her frontiers northward, annexing Strathclyde and Dalriada. In 685 the Picts recovered their independence. Alfrith, the son and successor of Oswio, made no further attempts to extend the boundaries of his kingdom, but under his patronage learning flourished in the kingdom. The successors of Osvio were for the most part worthless and incompetent rulers, and henceforth the decline of the kingdom is rapid. In 768 Alchred, King of N., sent an embassy to Charle-magne. In 827 Eanred, King of N., formally acknowledged the supremacy of Ecgbert I., King of Wessex. Ecgbert II. reigned till 878, and was the last English king of N. Subsequently N. acknowledged the overlordship of N. was for a Alfred the Great. N. was for a considerable period the chief seat in England of literary and missionary activity. It was in the monasteries of Whitby, Lindisfarne, and Jarrow that Bede (672-735) wrote his Ecclesiastical History, and it was N. that sent the missionaries in the 8th century who converted the greater part of Germany. It was not till the reign of William the Conqueror that N. really became an interral part of England. Alfred the Great, became an integral part of England. North Walsham, see WALSHAM, NORTH.

North-Western Provinces, see United Provinces.

North-West Frontier Province forms tempting to join his ally. The family is amme of the present ducal family is Smithson, and the creation is comparatively new (1786). Northumberland Strait, separates Prince Edward Island from Nova Ismail, the Hazara district, and the

of Afghanistan inhabited by inde-pendent tribes. The principal crops The Genuineness of the Gospels, 1837are maize and bajra in the cold 44 and 1855. He also translated the weather, and wheat, barley, and grain Gospels, which appeared in 1855, of various kinds in the spring; rice edited by his son Charles Eliot Norton and tobacco in Peshawar. The conditions; there are two seasons of granddaughter of Richard Brinsley rainfall, the monsoon and the winter rains, both somewhat presents in Conditions. and sugar canes are grown in Hazara, rains, both somewhat uncertain. The principal industry is agriculture. The principal industry is agricultoric. Incorprovince is irrigated by various canals owned either by private individuals, district boards, or the government; railways run from Rawalpindi to Peshawar and Jamrud, to Kusalgarh and on to Thel, and from Novshera to The chief towns are Pesha-Dargai. war and Dera Ismail Khan. The prevailing language is Pushtu, and most of the inhabitants are Pathans. Area 33,665 sq. m. (16,466 British territory, the rest occupied by independent tribes under control of the agent to the governor-general). Pop. 2,196,933 (mostly frontier tribesmen).

Northwich, a tn. of Cheshire, England, on the R. Weaver, 18 m. E.N.E. of Chester. Among the few ancient relies in the town is the picturesque-church of St. Helen, which belongs to the 16th century. The modern town is well built, and has some fine churches and public buildings. The chief industry is the manuf. of chemicals, the works being the most extensive in the world. There are also numerousship-yards, brick-yards, and iron foundries. The town has been subject to numerous land subsidences caused by the pumping of the brine used for the manuf. of salt and alkali.

Pop. (1911) 18,151.
North Woolwich, a tn. of Essex, England, on the N. bank of the R. Thames. The Victoria and Albert Docks are here, and there are manufs. of electric telegraph submarine cables,

of electric telegraph submarine cables, creosote, etc. Pop. (1911) 8001.

North Yakima, a city of Washington, U.S.A., in Yakima co., on the Yakima R. Pop. (1910) 14,082.

Norton: 1. A par. and vil. of Derbyshire, England, 8 m. N.W. of Chesterfield. Pop. (1911) 3919. 2. A par. and vil. of Durham, 1½ m. N. of Stockton on Tees. Pop. (1911) 4000. 3. A par. and tn. of E. Ridling, Yorkshire, on the Derwent, 17½ m. N.E. of York. It is noted for the training of race horses. Pop. (1911) 3991.

Norton, Andrews (1786-1853), an

Norton, Andrews (1786-1853), an American theologian, born at Hing-ham, Massachusetts, U.S.A. In 1813 he became librarian of Harvard University and lecturer on scriptural criticism and interpretation. Among his chief works are Reasons for not

mountainous region near the border | believing the Doctrines of Trinitarians. and Dr. Ezra Abbot.

Lost and Saved, 1863.

Norton, Charles Bowyer Adderley, first Baron (1814-1905), born Knighton, Leicestershire; entered parliament in 1841 as Conservative member for Staffordshire. He held the office of Under-Secretary for the Colonies (1866-68) and president of the Board of Trade (1874-78). In 1878 he was created a baron. He published works on social and economic problems, e.g. colonial policy, prison discipline, and Socialism.

Norton, Charles Eliot (1827-1908), an American man of letters, born at Cambridge, Massachusetts. U.S.A. He occupied the chair of history of art in Harvard University from 1874-98. He was joint editor of the North American Review with James Russell Lowell (1861-68). His chief works are: Considerations of Some Recent Social Theories, 1853; Notes of Travel and Study in Italy, 1860; Historical Studies of Church Building in the Middle Ages, 1876. But he will be chiefly remembered for his trans-lations and studies of Dante's Vita Nuova and Divina Commedia, 1891. See Life, edited by S. Norton and M. A. de Wolfe Howe, 1913. Norton, Fletcher, first Baron

Grantley (1716-89), born at Grantley, near Ripon. He entered parliament as member for Appleby in 1756, be-came Solicitor-General in 1762, Attorney-General in 1763, and Speaker of the House of Commons in 1770. He was raised to the peerage in 1782.

Norton, Thomas (1532-84), an English dramatist and lawyer, born in London. He entered parliament in 1558, and was appointed to the office of Remembrancer of the City of London in 1571. He collaborated with Sackyille in the composition of the first English tragedy, *The Tragedie of Gorboduc* (1561), written in blank verse.

Norton Canes, or Norton-under-Cannock, a par. and vil. of Staffordshire, England, 6 m. N. of Walsall. (1911) 5200.

Norton-in-the-Moors, a par, and vil.

of Staffordshire, England, 2 m. N.E. range, although generally too high of Burslem, with coal mines and iron for cultivation, contain the best

works. Pop. (1911) 4600.

Norton Sound, a large inlet of the Behring Sea, situated between lat. 63° and 65° N. and long. 162° and 166° 30′ W., in Alaska ter. It penetrates inland nearly 200 m., receiving the waters of Yukon R.

Nortesun-Fuffe or Nort a trace

Nort-sur-Erdre, or Nort, a tn. of France, in the dept. of Loire-Inférieure, on the R. Erdre, 16 m. N.E. of Nantes. Pop. 5400.

Norwalk: 1. A health resort of Connecticut, U.S.A., in Fairfield co., at the mouth of the R. Norwalk, on Long Island Sound, 12 m. W.S.W. of Bridgeport. The harbour is excellent. The oyster fisheries are extensive, and other industries include ship-yards, iron works and foundries, carriage factories, stray hat factories, and manufs. of locks, bolts, screws, etc. Pop. (1910) 6954. 2. Cap. of Huron co., Ohio, 51 m. W.S.W. of Cleveland,

with manufs. of sewing-machines, ploughs, etc. Pop. (1910) 7858.

Norway (Norwegian Norge), the western portion of the Scandinavian peninsula, which, together peninsula, which, together with Sweden, formed one joint kingdom down to 1905, is now a separate king-dom. It is situated between 57° 58' and 71° 10' N. lat., and between 5° and 28° E. long. It is bounded on the E. by Sweden and Russia, and on every other side is surrounded by water, having the Skager Rack to the Sthe German Ocean to the W. and S., the German Ocean to the W., and the Arctic Sea to the N. Its length is about 1100 m., and its greatest width about 250 m.; but between the lats. of 67° and 68° it measures little more than 25 m. in breadth. The area is 124,129 sq. m., and its pop. is 2,391,782. The whole of the Scandiviving remineral consists of a navian peninsula consists of a connected mountain mass, which, in the southern and western parts of N., constitutes one continuous tract of rocky highlands, with steep declivi-ties dipping into the sea, and only here and there broken by narrow tracts of arable land. Of the numer-ous summits which lie along the watershed, and which rise above the line of perpetual snow, the highest, known as the Sulitelma, has an elevation of 6200 ft. The highest peaks lie around the Sogne Fjord, and reach an elevation of over 8000 ft.
The mean level of the range, which seldom rises more than 4000 ft. above the sea, is occupied by extensive snow-fields, from which glaciers descend to the day of the services. snow-fields, from which glaciers descend to the edge of the sea, while here and there the vast snow plain is

timber that is exported from N., and afford good pasturage in the height of the summer, when the flocks and herds are driven thither from the low lands near the entrance of the fjords. N. abounds in lakes and streams, but none have an area exceeding 400 sq. m. The chief rivers of N. are the Glommen, Lougen, Louven, Drammen, Otter, and Wormen. The first of these has a course of 400 m., but the majority of the Norwegian streams, all of which rise at great elevations, have a comparatively short course, and are unfit for navigation, although they are extensively used to float down timber to the used to float down timber to the fjords, whence the wood is exported in native ships to foreign ports. The greatest number of fjords occur in the northern parts of the land near Trondjem, where the narrow Sogne Fjord penetrates through the Norska Fiellen to a length of 120 m., while near this the Porsanger Fjord runs a single course of 100 m. with the sinuous course of 100 m., with the exceptionally large width of 20 m. The peculiar physical character of N. necessarily gives rise to great varieties of climate in different parts of the country. The influence of the sea and of the Gulf Stream, and the penetration of deep inlets into the interior. greatly modify the severity of the climate on the western shores, and render it far superior to that of the other Scandinavian countries in the same latitude. On the coast generally rain and fogs prevail; while in the regions near the North Cape storms regions near the Norm cape with are almost incessant, and rage with extraordinary violence. In the incessant and dry. The are almost incessant, and rage with extraordinary violence. In the in-terior the air is clear and dry. The longest day, which in the S. is 18 hours, may be said to be nearly thre months in the high latitudes of the northern districts, where the longest night lasts almost an equal length of time. The protracted winter of the follows northern regions suddenly on the disappearance of the sun, when the absence of solar light is compensated for by the frequent appearance of the aurora borealis, which shines with sufficient intensity to allow of the prosecution of ordinary occupations. The Scotch fir, Pinus sylvestris (Norwegian Furn), and spruce, P. abies (Norwegian Gran), cover extensive tracts, and with birch constitute the principal wealth of N.; the value of these articles of export amounting in some years to upwards of 10,000,000 thalers. The hardier fruits, as strawberries, gooseberries, broken by fjords (i.e. friths), some of cherries, and raspberries, are abund-which, as the Folden Fjord, penetrate ant and excellent of their kind. upwards of 70 m. through the rocky Hemp, flax, rye, oats, and barley are masses. The upper valleys of this grown as far N. as 66°. Agriculture is

most successfully prosecuted in the strong, well-knit, muscular frames, of amts or administrative districts of Jarlsberg and Laurvik, Akershuus, bair, and blue eyes. The legislative Budskerud, and in the S. generally: power of the realm is vested in the upper valleys, the rearing of cattle constitutes an important branch of industry. Although the cattle and constitutes are small, they are generally president of the Council of State and strong and capable of bearing much seven councillors. horses are small, they are generally strong and capable of bearing much hard labour. The fisheries of N. are of very great importance, both for home consumption and for export. Fish are caught in almost every stream and lake of the interior, as well as in the fjords of the coast, and in the bays and channels which encircle the numerous islands skirt-ing the long sea-line of N. Salmon, herring, and cod are of the greatest importance. The fauna of N. includes the bear, wolf, lynx, elk, otter, reindeer, red-deer, seal, the eider-duck, and many other kinds of sea-fowl, blackcock, capercailzie, and a great variety of small game. The mineral products comprise silver, copper, cobalt, iron, chrome ironstone, etc. The richest mines are situated in the S., and chiefly in the district of the Glommen, as the celebrated and Glommen, as the celebrated ancient silver works of Kongensberg, ancient silver works of Roraas and Kaafjord, and the numerous iron shafts on the southern declivities of the mountains between Kongensberg and the Glommen. Shipbuilding in all its branches is almost the only industrial art that is extensively and actively prosecuted. The total annual value of exports is about £15,000,000, and imports about £15,000,000, and imports £22,000,000. The Lutheran is the predominant, and almost the exclusive, church, although freedom is allowed to all other Christian deanowed to an other christian de-nominations. Jews are not tolerated. Education is compulsory from the ages of six and a half years to fourteen. The University of Christiania (q.v.), which was founded in 1811, is well attended. The army of N. is composed of a national militia, and service is universal and compulsory, but the navy is insignificant. Horten, in Christianiafjord, is the principal naval port. The only fortified places are Fredericksteen at Frederickshald, Frederickstad, Akershuus, Bergenhuus, Munholm, and Wardoehuus, near the Russian frontier. The chief towns are Christiania, Bergen, Trondjem, Slavanger, and Drammen.

Race and Government. -- With the northern regions.

N. are generally a race, akin to the N

of Arvan descent. The genuine Nor-throne, until, like the sister-kingdom, wegians are of middle height, with it agreed of its own free-will to relin-

History.—The early history of N. is comprised in that of the other Scandinavian countries, and is, like theirs, for the most part fabulous. It is only towards the close of the 10th century, when Christianity was introduced under the rule of Olaf I., that the mythical obscurity in which the annals of the kingdom had been pre-viously plunged begins to give place to the light of historical truth. The introduction of Christianity, which was the result of the intercourse which the Norwegians had with the more civilised parts of Europe through their maritime expeditions, destroyed much of their old heathenism. Olaf II., or the Saint (1015-30), who zealously prosecuted the conversion of his countrymen, raised himself to supreme power in the land by the subjection jection of the small kings or chief-tains. The war between Olaf and King Knut the Great of Denmark, which terminated in 1030 with the battle of Sticklestad, in which the former was slain, brought N. under the sway of the Danish conqueror; but at his death in 1036 Olat's son, Magnus I., recovered possession of the throne, and thenceforth, till 1319, continued to be governed by native kings. The death in that year of Haakon V. without male heirs threw the election of a new king into the hands of the National Assembly, who, after many discussions, made choice of Magnus VIII. of Sweden, the son of Haakon's daughter. He was in turn succeeded by his son Haakon, and his grandson Olaf IV., who having been elected king of Denmark in 1376, became rule of the sisten Scanding response with the sisten Scanding response rule of the sisten Scanding rule of the sisten Sca came ruler of the sister Scandinavian kingdoms on the death of his father in 1380. This young king, who exercised only a nominal sway under the guidance of his mother, Queen Margaret, the only child of Valdemar III. of Denmark, died without heirs in 1387. Margaret's love of power and capacity for government brought about her election to the triple throne of the Scandinavian lands, and from this period till 1814, N. continued united with Denmark: but while it exception of some 20,000 Lapps and united with Denmark: but while it Finns, living in the most remote shared in the general fortunes of the . e, it retained its own con-

mode of government, and its right of electing to the

Norwegian

for more than 400 years; for Denmark, after having given unequivocal proofs of adhesion to the cause of Bona-parte, was compelled, after the war of 1813, to sign the treaty of Kiel in 1814, in which it was stipulated by

the allied powers that she should resign N. to Sweden. Charles XIII. was declared joint king of Sweden and N. in 1818. From that time down to 1905 N. remained in union with Sweden. In June of that year N. declared the union dissolved, and the repeal of the union was signed in October of the same year. The throne was offered to and declined by a prince of the reigning house of Sweden, but was afterwards accepted by Prince Carl of atterwards accepted by Prince Carl of Sweden, who was thereupon elected as King Haakon VII. In 1908 a treaty was signed by Great Britain, Germany, France, Russia, and Nor-way guaranteeing the integrity of the Norwegian kingdom. King Haakon married Princess Maud Alexandra, the youngest daughter of King Edward VII. of England. They were crowned at Trondjem Cathedral in 1906. See Giertsen and Halvarsen,

in 1906. See Giertsen and Halvarsen, Norway Illustrated, 1838; Kjerulf, Die Geologie der südlichen und mitt-lern Norwegen, 1880; and Keary, Norway and the Norwegians, 1892. Language.—The old Norse language forms one of the chief branches of the Scandinavian family of Indo-Europeanlanguages, and is now represented by Icelandic, Iceland having been colonised from N. For official and literary purposes modern Norwegian is identical with Danish, with a large incorporation of Norse words. There are many dialectical varieties of Norse spoken by the peasants, and since the middle of the 19th century there has been a strong movement, complicated by politics, towards an artificial composite language (landsmaal) formed

from the various peasant dialects.

Literature.—The literature of Norwegians by bi

of Denmark from N. communication

1814, the inaugural day of Norwegian independence, the 'Trefoil,' Conrad Schwach (d. 1860), Mauritz Hansen (d. 1842), and Henrik Bierregaard (d. 1842), did much for the new school; but the greatest early figures were Henrik Wergeland (1808-45), a wild, uncontrolled genius breething that it is the school of the (1808-49), a wild, uncontrolled genius breathing the spirit of revolt, and his great opponent, Johann Welhaven, classicist and conservative (1807-13). Wergeland's sister, Camilla Collet (1813-95), was an early realistic novelist, and her great novel, The Governor's Daughter, is a landmark in the women's suffrage movement. Andreas Munch (1811-44) achieved great popularity with his poems and by his epic, The Bridal of the King's Daughter; other poets are Magnus Landstad (d. 1880), a collector of folk-Jorgen Moe (d. 1882). Assmund Vinje (d. 1870) was a pioneer of vinje (d. 1870) was a pioneer of the movement (maalstraev) to form an artificial Norwegian language, apart from the accepted Dano-Nor-wegian, out of the various peasant dialects, which has had such marked effects on Norwegian political and literary history. Of the next period the great names are those of Henrik Ibsen, poet and dramatist, and Björn-Ibsen, poet and dramatist, and Bjornstjerne Björnson, novelist and dramatist, whose reputation and influence were world-wide. With them must be joined Jonas Lie (d. 1908) and Alexander Kjelland (d. 1906), both great novelists. Of a later generation the names of two powerful and individual writters. Anna Garbora (b. 1852) and writers, Arne Garborg (b. 1852) and Hans Jaeger (b. 1854), must be men-tioned. Quiet humour, rare in Norwegian literature, is found in the peasant sketches of Hans Aanrud (b. peasant sketches of Hans Aanrud (b. 1863). Of modern poets the names of Niels Vogt (b. 1864) and Nilhelm Krag (b. 1871) stand out, with those of the novelists Knut Hamsun (b. 1859) and Hans Kinck (b. 1805), and of the dramatist Gunnar Heiberg (b. 1857). Latterly the artificial compound dialect language (landsmaal) has been strongly represented by Kristofer Uppdal (b. 1873) and Oskar Braaten (b. 1881). The novels of Ellert Bjerke (b. 1887), Rolf Schögen (b. 1887), Sigmun Rein (b. 1873) and the lyrical poems of Herman Wildenyey (b. 1886) Literature.—The literature of N. and ream to be taken as a whole; for the old sagas, the poetry, and historical legends were written in the Norse, which was the language of the colonists of Iceland from N., and is so bound up with Icelandic literature that it cannot be separated therefrom (see Iceland—Literature and Language). Similarly, till well on into the 19th century, it is in Denmark and in Danish that the sources of Norwegian literature.

Norwegian literature.

And Iterature and Dental Market of the N. Atlantic Ocean stretches between Norway and between the Arctic land, and between the Arctic and about lat. 61° N. It is

connected with the Arctic in the far trade in dairy produce. north, between Spitzbergen and 7422. Spitzbergen Greenland by a wide deep opening. An extensive seal and whale fishery is carried on, especially off the N. and E. coasts of Jan Mayen Is. Area 100.000 sq. m. Mean depth 870 fathoms

Norwich: 1. A city and bor, in the co. of Norfolk, England, situated in the valley of the Wensum about 115 m. N.E. by N. of London. Fragments of the ancient walls, which were four miles in circuit, remain. The famous Norman castle stands on an eminence and is surrounded by earthworks and a ditch. This castle was built soon after the Conquest, but was destroyed; and it was subsequently rebuilt by Stephen. The cathedral, which is situated in the hollow between the castle and the river, was founded in 1096. In the 13th century a considerable portion of the building was destroyed by fire, and was rebuilt thereafter. The architecture of the cathedral as it now stands is composite. The two chapels at the east end are the original Norman. The Perpendicular spire, which replaced two earlier wooden spires. belongs to the 15th century, magnificent cloisters were completed in 1430, and the vaulted stone roof of the nave in 1472. The carved work of the oak stalls and miscreres dates from the 15th century. There are many churches in the city; the largest, St. Peter Mancroft, dating from the 15th century, is one of the first parish churches in England. St. Andrew's Hall, a fine Gothic edifice, was originally the nave of the Blackfriars mon-

and dates from 1408. The Grammar School of N. belongs to the early 14th century; it was formerly a chapel of St. John, and has a fine crypt. The principal industries are iron foundries, agricultural implement works, chemical works, tanneries, boot manufactories, and manufactories of woollen goods. The manufacture of mustard, starch, and cornitour is also a flourishing industry. Pop. (1911) 121,493.
2. A city of Connecticut, U.S.A., on the R. Thames, 40 m. S.E. of Hartford. It is a flourishing industrial centre, manufs. cotton goods, guns, and printing and binding machines. and printing and binding machines. It was settled in 1659, when 9 sq. m. were bought of Uncas, an Indian chief, for the equivalent of £70. Pop. (1910) 20,369. 3. Cap. of Chenango co., New York, U.S.A., on the Chenango R., 50 m. S.E. of Syracuse; has invested to the control of important manufs. of engines, industrial machines, carriages, and leather or vibrisse, which serve to protect goods. There is also considerable the nasal cavities from dust, small

Pop. (1910)

7422.

Norwood, a suburban dist. of S. London, a mile S.W. of Dulwich. It consists of Upper, Lower, and South N., and is partly in the county of London and partly in Surrey. Pop. (1911) 36,000. 2. A tn. of Adelaide. O., S. Australia, forming a suburb 3 m. N.E. of Adelaide. There are market gardens, and brewing is carried on. Pop. 13,000. 3. A. tn. of Ohio, U.S.A., in Hamilton co., forming a S.W. suburb of Cincinnatti. Pop. (1910) 16,185. 4. A tn. of Massachusetts, U.S.A., in Norfolk co., 14 m. S.S.W. of Boston. Pop. (1910) 8014.

Norwood, Richard (1590-1675), an English mathematician. In 1616 he was sent to the Bermudas to survey was sent to the Bermudas to survey the newly settled islands, and was accused of having reserved for himself some of the best land there; he certainly resided there during the Civil War, carrying on his profession of teacher of mathematics. He published a map of Bermudas in 1622; The Doctrine of Triangles, 1631; The Seaman's Practice, 1637; and The Epitomy or Application of the Doctrine of Triangles, 1667.

Nosari, Nausari, or Navasori, a tn. of Bombay, India, on the l. b. of the Purna R. (which is navigable up to here), and 19 m. S.E. of Surat. It has a colony of Parsee cotton weavers. Pop. 16,000.

Pop. 16,000.

Nose, the organ of smell. It consists of an external portion and an internal part divided into two nasal cavities. The outer N. has the shape of a triangular pyramid. The bony structure of the N. consists of the short nasal bone which is connected with the forehead by a bridge. Be-sides this bone, the N. is supported by cartilages, of which the five chief are the cartilage of the septum and the upper and lower lateral cartilages. The cartilage of the septum forms the supporting part of the vertical partition which separates the right and left nasal cavities. The lower part of the septum is not formed by the cartilage of the septum, but is freely movable, and is on this account called the septum mobile nasi. The upper lateral cartilage is triangular in shape, and serves as a continuation of the nasal bone. It is joined at its lower edge on each side by fibrous tissue to the lower lateral cartilage. This consists of two plates; the outer one is oval and communicates with the inner one by a rounded piece which forms the point of the N. The lowest part of the N., or 'wing,' is formed of skin ex-ternally and internally. The orifices or nostrils are guarded by small hairs,

cavity, the vestibule, which is pro-longed towards the tip as a pouch, or ventricle. Above the vestibule the nasal passage, or fossa, is divided into two parts, the upper or olfactory, and the lower or respiratory, portion. The the lower or respiratory, portion. The fossæ are divided into three passages, or meatuses by three turbinated, or scroll-like bones. The meatuses communicate with the ethmoidal, sphenoidal, and frontal cells.

The olfactory region is lined with ucous membrane, yellowish in lour, and containing olfactory glands, or glands of Bowman, embedded in it. In the respiratory region the mucous membrane is covered by columnar, ciliated epithelium, and contains many cells secreting a watery fluid. The N. is supplied by branches of the facial nerve, the ophthalmic, and others for the convergnce of motor impulses and of ordinary tac-tile sensations. The sense of smell is conveyed by olfactory nerves arising from the olfactory bulb and distributed over the mucous membrane of the olfactory region. Here they are connected with rod-like cells; these cells pass between the columnar epithelium to the surface, where a delicate filament serves as a free end; at the other end of each cell the filament becomes continuous with an olfactory nerve filament. It is not definitely known whether the external stimulus which gives rise to the sensation of smell is physical or chemi-cal in its nature. The substance excit-ing the smell must be in a finely divided state, and is usually a vapour or gas. The free ends of the olfactory or gas. The free ends of the obtactory filaments are usually covered with a thin layer of fluid. If the fluid is too thick, as in catarrh, or if it is replaced by a dry crust, the efficiency of the olfactory organ is diminished or temporarily destroyed. The exciting substance becomes dissolved in watery fluid, and so affects the cell filaments. In order that solution may be effected readily, a certain amount of pressure is necessary; that is, the air containing the substance must be driven with some force against the membrane by sniffing. The organ of smell is probably not so delicately differentiated in man as insome of the lower animals. The sense is quickly fatigued, so that a delicate odour is sometimes not perceived after the initial experience; most persons also find it difficult to discriminate in a mixture of smells, and probably only the predominating odours in a host of smells are perceptible to man, al-though the lower animals might be

insects, etc. Above the aperture in fractured by direct violence, and if each nostril is a slightly expanded adequate treatment is not resorted to, a displacement of the septum may result, leading to nasal obstruction and possible complications. rosacea is a skin affection characterised by congestion of the capillaries of the outer N. and later by hypertrophy of the sebaceous follicles. The N. has then a swollen appearance, and the course of the dilated capillaries can be plainly seen. It occurs in dyspeptics, alcohol- and tea-drinkers, and is known as 'brandy nose' or 'whisky nose,' though the cause may ont be the use of alcohol. Sulphur ointment is useful as a local application, but the condition is only cured by the removal of the predisposing cause. Rhinitis is a very common complaint. It involves inflammation of the mucous membrane of the N.; its acute form is coryza or cold in the head. Chronic rhinitis is due to repeated attacks of the acute form, and produces in the early stages hyper-trophy of the mucous membrane, and in the later stages atrophy of the mucous membrane, together with the formation of dry crusts, or scabs. Fibrinous rhinitis is a rare form, in which a false membrane is developed in the N. Epistaxis is bleeding from the N. The cause may be a high arterial pressure due to one of a variety of conditions, and in many cases is itself a remedial effort of the organism. Where the bleeding continues, the patient should rest quietly on the back, and tanno-gallic acid should be applied locally. If the hæmorrhage resists these measures, the N. must be plugged. Polypt, or tumours, may be formed on the mucous membrane. A soft mucous polypus can easily be removed and lose not usually reour. But fibrous does not usually recur, but fibrous polypi have a tendency towards

malignancy.
Nosology (Gk. rósos, disease; lósos science), that branch of medicine science, that branch of science and which treats of the distribution and arrangement of diseases into classes, orders, etc. The most popular system is that of Dr. Farr, which has taken the place of Cullen's; also of the collection of evidence as to whether a particular condition should be re-garded as a special disease.

garded as a special unsease.

Nossi-Bé, an island 8 m. from the

N.W. coast of Madagascar, belonging
to France. It is 14 m. long by 10 m.
broad with an area of 130 sq. m. It is
volcanic and mountainous.

Rice, maize, manioc, bananas, coffee, and sugar are grown. Cap. Heliville. Pop. 10,000.

Nostalgia (Gk. vóoros, return home; though the lower animals might be able to discern many.

Diseases, etc.—The N. may be cholia, but is probably a psychic manifestation merely. tensity from a sentimental inclination to think fondly of the home-land, to an uncontrollable desire to return and a settled dislike of one's present surroundings. The onset may be gradual or may be precipitated by any critical or disturbing occurrence. It is very common among people who have previously dwelt in agricultural and pastoral districts where the inhabitants are inclined to be clannish and intolerant of innovations. The cause of the condition is undoubtedly the of the condition of the change of circumstances, and the absence of familiar neonle and impressions. That there is no organic lesion in this form of melancholia is attested by the fact that the condition immediately dis-

Nostoe, a genus of lowly plants, some of them common on damp ground and moss, and floating or attached to substances in fresh water. As seen, they are minute lumps of green or blue jelly, which the microscope shows to be occupied by rows of cells, some round, some large and square, arranged in the form of a chain. N. propagates itself either by spores or by cell division, the larger cells breaking away from the lump and secreting a new gelatinous covering in which a fresh colony is

appears when the desire to return has

been accomplished.

Nostradamus, or Michel de Notredame (1503-66), a French astrologer, of Jewish extraction, born at St. Remy, Provence. For many years he practised as a physician, and gained high reputation for his skill in stemming the tide of the great plagues of Lyons. His Centuries was published in 1555, and aroused universal interest and excitement. Lives of the astrologer have been written by Jaubert (Vie de M. Nostradamus) and Bareste (Nostradamus).

Nota, Alberto (1775-1847), an Italian comedy writer, born at Turin. He was greatly influenced by Molière, but he followed his model too closely to give his own individuality scope and freedom. His best work is perhaps La Lusinghiera. Collected editions of his plays were published at Florence in 1827 and at Turin in 1837 and 1842.

Notables, The, advisory assemblies of notable personages summoned by the kings of France in times of stress. These assemblies had no constitutional authority whatever, and their transactions were of a purely private and confidential nature. In 1787 calonne proposed to Louis XVI. that the first assembly of the N. should be place. The powers of a N. P. in called in order that the privileged America are wider; they may take classes night be prepared for, and

It varies in ingive their consent to, a more equitable nental inclination system of tax collecting. Louis XVI. home-land, to an eto return and a Richelieu consulted this body in present the constant of the consulted states of the constant of the consulted this body in present the constant of the consulted states of the constant of the consulted states of the constant of the consulted states of the consulted sta

ference to the states-general Notary Public. The office of N. P. is of great antiquity, and its origin is to be traced to the professional writers or scribes who made drafts of public and private instruments. According to Brooke (Treatise on Notaries, 1901), the name was applied amongst the Jews to the royal secretaries who wrote the letters and edicts of the king, kept the register of his troops, and attended to his revenue and expenditure; to scribes who copied and interpreted sacred writings, and to notaries who wrote and prepared legal documents. The same authority finds analogous officials in ancient Syracuse, Egypt, Greece, and Rome. The term notary itself is derived from Latin, note, meaning the system of stenography in vogue among the early Roman scribes, though later it appears to have been applied to the clerks or registrars attached to the provincial and municipal magistrates and officials of the emperor's privy council, while those who prepared private deeds and documents were specifically known as tabelliones from labellio, the thin waxed tablets used in drafting. There is no European nation without its Ns. P., though their duties differ considerably different countries. In England the duties of a N. P. are very circum-scribed, and in status he is far below, e.g. the N. P. of France. The English notary's chief duties are to note and protest bills of exchange, to authenticate copies of private documents and deeds, to draft and attest instruments like powers of attorney about to be sent abroad, and receive affidavits of mariners, and administer oaths. A great many of the functions of a notary are, however, in England performed by solicitors, e.g. the preparation of wills and contracts, and hence it is that this official's duties are so commonly associated with protesting bills of exchange on dishonour. The utility of a 'notorial act ' (i.e. the act of authenticating or certifying a document or entry by a written instrument under the signature and seal of a N. P., or an instrument attestation, or certificate made or signed by a N. P.), is that it is by the custom of all merchants accepted as unimpeachable evidence of the legal validity of the transaction recorded by it, notwithstanding that such transaction may have no validity

to the recording of testimony, and plants (order Liliaceæ) bearing umtake proofs of debts in bankruptcy. In England Ns. P., who have always been civil and canon law officials, are other species are hardy; other species ar been civil and canon law officials, are appointed by the Archbishop of Canterbury. In America they are appointed by the state-governor, and with the advice of either the council or the senate of the state.

Notation (Lat. notatio, noto, to mark), in music, the art of writing music in notes, i.e. representing musical sounds and their various modifications, by notes, signs, etc. It dates back to the time of Gregory. 590-604, when a very crude form of notation was used. It consisted of dots and dashes of various shapes, and the 'staye' was then unknown. From 990-1050 it was much improved by Guido of Arezzo, who founded our present system.

Notes, Bank, see BANKS AND BANK-

ING. Notes and Queries. This compact little store-house of quaint or unknown or little-known facts, phrases, archaisms, and bibliographies interest to the literary world, was established in 1849 by the antiquary, William John Thoms, with the object of 'providing,' says his biographer in the Dictionary of National Biography.
'a paper in which literary men could answer one another's questions.' avowed objects are not only to afford a medium of intercommunication between literary men and general readers, but to elucidate any abstract point, difficult question, or disputed dogma in history, archæology, or literature; and from the time Thoms

its object. A full account of the history of N. and Q. from the pen of Thoms will be found in some of the 1876 and 1877 numbers of the peri-Thoms was himself a great contributor to the paper, some of his most arresting articles being, 'The most arresting articles being. The Death Warrant of Charles I., another Historic Doubt, 'Lord Chatham and the Princess Olive,' and 'Hannah Lightfoot.' Curiously enough, the issue of July 12, 1913, unable to keep Charles's head out of its columns, contains an article on 'The Forged Property and Property of the Registration of the Property of the Register. Speeches and Prayers of the Regicides.' It is now owned by the proprictors of the Athenœum, and edited by the editor of that periodical.

Nothochlena, a genus of ferns of delicate appearance, the fronds being green on the upper surface and powdery or scaly white underneath. A number of species are grown in the stovehouse and the greenhouse.

Nothoscordum, a genus of bulbous

grown in cool greenhouses.

Notice, Equitable and Equitable.—It is a principle of equity (a.v.) that an equitable as distinct from a legal (i.e. common law) interest in property is in no way binding upon the person who obtains the legal interest, unless he ought in conscience to respect the equitable interest, and in general his conscience can only be affected by notice, actual or con-structive, of the existence of the equitable interest; e.g. A, the owner of an estate creates an equitable mortgage of it to B., then without disclosing such mortgage, A makes another equitable mortgage of it to C. C is ordinarily postponed to B in the matter of repayment of their loans because later in point of time: but if, assuming that at the time he took his mortgage he had no notice of the existence of the mortgage to B, he subsequently induces A. to convey to him the legal estate whether by way of mortgage or otherwise, he can ignore B's mortgage altogether. constructive notice is meant either knowledge of a fact from which the existence of an equitable interest ought to have been inferred, or the possibility of discovering its existence by the customary method of investigating title.

Judicial.—A court of law is said to take judicial notice of a fact when it accepts it in evidence without proof. All judges take judicial notice of inter alia: (1) All Acts of Parliament, by of public or private, and all unwritten laws and legal principles acted upon by the courts of Greut Britain; (2) all general customs decided by a mout! superior court of law of equity to have the force of law; (3) the course of proceeding, and all rules of practice of the Supreme Court; (4) the general course of proceeding and privileges of parliament; (5) the ordinary course of nature, and natural and artificial divisions of time; (6) the ordinary meaning of English words; (7) the existence of every state and sovereign recognised by this country; (8) the signatures of high court judges; and (9) all matters which they are directed

(9) an matters which they are directed by statute to notice. See Taylor On Evidence; Stephen, Digest of Evidence. Noto, a tn. of Sicily, in the prov. of Syracuse, and 16 m. S.W. thereof. It was built in 1703, near the site of the ancient Necethum, which had been destroyed by an earthquake in 1693. Pop. 23,000.

Notochord, see Amphioxus, Biology, Chordata, and Embryology. Notornis, or Mantelli, an extinct

New Zealand bird, the last living dismantled during the Protectorate specimen of which was seen in 1866. The bird was allied to the Rails, and had rudimentary wings, but could run at considerable speed. The bill and feet were red, the head, throat, and under parts purplish blue; the upper surface brownish green, and the wing feathers blue with green tips.

Nototherium, a genus of extinct marsupials, the remains of which are found in the Post-Tertiary of Aus-It differed from Diprotodon

chiefly in its dentition.

Notre Dame de Grace, a large vil. of Quebec, Canada, 2 m. W. of Montreal.

Pop. 2600.

Notre Dame of Paris (Our Lady of Paris), the most important cathedral of Paris. The present building was begun in 1163, on the site of two early churches, but the S. portal was not finished until 1257, although the cathedral was open for worship by the end of the century. It is a fine example of the two first periods of Gothic, and possesses the Crown of Thorns and a fragment of the Cross. The Fountain of Notre Dame is situated in the square of the Arch-bishopric, which occupies the site of the old palace, sacked in 1381. It was built in 1842-46 by Vigoureux, in the Gothic style.

Nottaway, a river of Quebec, Canada, rises in Lake Sosqumika, an arm of Lake Mattagami, and after a N.N.W. course of about 80 m. flows into James Bay, near Black Bear Point. The Nottaway tribe, one of the N. American tribes of Iroquvian stock, were formerly numerous in the district, but are now nearly extinct.

Nottingham, a city, and parl. bor., and co. tn. of Nottinghamshire, England, at the junction of the Leen with the Trent, 125 m. N.N.W. of London. There is a wide market-place (5½ acres). The chief buildings are the churches of St. Mary, St. Peter, St. Nicholas (1676), the Roman Catholic (1816). cathedral of St. Barnabas (1842-4), University College (1881) with free library and natural history museum, the Guildhall, and the People's College (1846). The site of Nottingham Castle, on a steep rock to the S. of the town, has been acquired on a lease by the corporation, and buildings were erected as a museum and art gallery. N. is an old and important industrial centre; among the manufactures are bobbin-net, lace, hosiery, cotton, silk and woollens, yarn, cycles, machinery, tobacco, and leather. There are important fairs and a large eattle-market. It became ore of the five Danish boroughs, and not often cultivated.

The original castle of Notting and not often cultivated. The original castle of Nottingham,

and replaced by the present edifice -a castle only in name. town's oldest charter dates from 1155. It has returned three members to parliament since 1885. Pop. (1911) 259,942.

Nottingham, Charles Howard, Lord Howard of Effingham, Earl of (1536-

1624), see HOWARD.

Nottingham, Finch Heneage, first

Earl of, sec FINCH, HENEAGE.

Nottinghamshire (Notts), a mid-land co. of England. The surface varies, part of it being a continuation of the Yorkshire plain, rising towards the S.W., where the Robin Hood Hills reach an elevation of over 600 ft. Near to these hills lies Sherwood Forest, famous for its connection with Robin Hood, and now mostly included in the parks that form what is known as the 'Dukeries.' The principal rivers are the Trent, Erewash, Soar, and Idle. On the W. border lie the Cresswell Crags, in which are some famous caves, where remains of mammoth, cave lion, etc., have been found. On the S.W. there are extensive coal mines, Notting-ham and Mansfield being the chief centres. Sandstone, limestone, and clay are worked. The principal clay are worked. The principal manufactures are lace and hosiery; there are also silk, worsted, and cotton mills, and at Beeston machinery and motor works, while there are tobacco factories at Nottingham. The greater part of the county is under cultiva-tion. Agriculture and farming flourish, and apples and pears are largely grown. It is divided into four parliamentary divisions, each returning one member. In ancient times it formed part of the kingdom of Mercia, and was subjected to many incursions from the Danes. In later times the castle of Nottingham became historical. At the time of the dissolution of the monasteries there were forty religious houses in N., but the only important remains are those of New-stead Abbey. There are some fine churches, including Southwell Cathedral of Norman date, and some splendid modern mansions in the ' Dukeries. ries.' Area 827 sq. m. Pop. (1911) 604,098. See Victoria County His-Pop. (1911)

outing Hill, a dist. of London, England, near the W. end of Hyde Park, i m. W. of St. Paul's. It is a favourite residential district,

Notus (the Greek name for the S. or

built by the Conqueror, in which de-France, cap of the French colony several parliaments were held, was of New Caledonia, on the Bay of

Nouméa on the S.W. coast of the brightness followed island. It has an excellent harbour, a government house, museum, college, and barracks. Pop. 6968.

Noumenon (from Gk. voelv, to know), in philosophy, a term introduced by Kant and rarely used apart from the consideration of his own philosophy. According to him, noumena are the real objects in them-selves lying behind the phenomena, a phenomenon being defined as the 'undetermined object of an empirical intuition.' The noumenal world he held at first to be completely unknowable, since we can only recognise phenomena; but later he teaches that introduction to it is given by the practical reason, the capacity which we exercise as moral agents.

Noureddin (one of the Moslem rulers of Syria), see NUR ED-DIN MAHMUD. Nouvelle, or Meguasha, a riv. of Quebec, Canada, flowing S. and S.E. through the co. of Bonaventure into Chaleur Bay. Length, 60 m.

Nouvelle Revue, La, a French political and literary journal, published fortnightly, was founded at Paris in 1879 by Madame Edmond Adam. When the republican government was definitely consolidated in 1870. Madame Adam, resolving to continue the struggle for the ideas of patriotism and progress, enlisted the services of the most energetic and progressive of the younger generation of writers. The journal speedily became popular, and in 1900 she handed over its direction to Monsieur P. B. Ghensi.

Nouzon, a tn. in the dept. of Ardennes, France, 7 m. S.E. of Mézières, on the r. b. of the Meuse. It has iron foundries, and manufactures fire-irons and agricultural instruments. Pop. 7500.

Novæ, or New Stars, are which are suddenly perceived in a part of the heavens in which, despite being well-charted, there has hitherto been no such star known. Probably new stars of small brilliancy are of not infrequent occurrence, but of the larger magnitude, such, for instance, as are visible to the naked eye, the number has been few. One such was ob-served by Hipparchus, the father of astronomy. Tycho Braho observed the brightest recorded nova on Nov. 6, 1572, in the constellation of Cassiopeia, and in October 1604, Kepler and Galileo saw one in Ophiucaus.

latter, and one seen in Vulpecula by
Anthelm in 1670, were the only
N. seen in the 17th century; but
You found in the 19th, and two have already been observed

by decline which in the course of a few months leaves it barely visible even with a powerful telescope. Two of the most important N. in recent years have been Nova Aurigæ (1892) and Nova Persei (1901), both of which were discovered with the naked eye by Dr. Anderson at Edinburgh. latter is by far the most interesting yet When observed. covered on the morning of Feb. 22, its magn was ten ti

northern till in 1903 it was of the twelfth mag-nitude. In the autumn of 1901, while attempting to determine its parallax, Prof. Max Wolf found that the star was surrounded by a nebula. This nebula was photographed several times, the photographs revealing the fact that the nebula was moving and led to the conclusion that it had been expanding continuously since the appearance of the star. Prof. Perrine demonstrated by the spectrum that the nebula shone by the reflected light of the star, a demonstration which led Prof. Kapteyn to suggest that all space was filled by an attenuated, stationary, and nonluminous matter which was only

rendered visible by reflection. The origin of N. is quite unknown, but a collision between two dark bodies would naturally suggest itself.

Novaliches, Manuel Pavia y Lacy, first Marquis de (1814-96), a Spanish soldier, born at Granada. He was a general at the close of the Carlist War (1840), and was made a senator in 1816 and a marguis in 1815. 1846 and a marquis in 1848. He was minister for war in 1847 and captain-general of the Philippine Is. in 1852. On the outbreak of the revolution in 1868 he was placed in command of Queen Isabella's troops, but was defeated at the bridge of Alcolea (1868)

and badly wounded.

Novalis, the literary name assumed by Friedrich von Hardenberg (1772-1801), a German poet and philosopher, born at Mansfeld, Prussian Saxony. In 1789 N. was sent to Jena to study; in 1792 he went with his brother Erasmus to Leipzig University, and in the succeeding year to Wittenberg where he completed. Wittenberg, where he completed his studies. On leaving Wittenberg he studies. went to Armstadt, where he became enamoured of a lady, called by his biographer Sophia yon K. In 1795 N. went to Weissenfels, and was made auditor of the Saxon Salt Works, of which his father was director. The which his father was director. The death of Sophia and of his brother in this century. The discovery of Erasmus, both in 1797, was a severe N. has been facilitated by the existence of N. Hymnis to Night are supamination of the photographic plates. Some department of N. is a sudden time. N. commenced the ronunce

Ticck and Schlegel.

Novara (ancient Novaria), a tn., tl
cap. of a prov. of the same name
Piedmont, Italy, 27 m. W. of Mila
It has a magnificent cathedral, dating

from the 5th century, and rebuilt in the 11th. There are important textile manufactures. It was ceded to the house of Savoy in 1735. In 1849 Charles Albert, King of Sardinia, was defeated here by the Austrians, and forced to abdicate. Pop. 45,000.

Nova Scotia, a prov. of the Dominion of Canada, lying between 43° and 47° N. and 59° 40′ and 66° 25′ W. It consists of two portions, N. S. proper, a large peninsula, and the island of Cape Breton (q.v.), separated from it by the Gut of Canso. N. S. proper extends 280 m. N.E. and S.W., or, including Cape Breton Is., 350 m. long from N.E. to S.W. The isthmus of Chignecto, 11½ m. wide, connects it with the prov. of New Brunswick. The Cobequid New Brunswick. n of hills stretches from E. W. and terminates at Cape at Cape to Beyond the fir-studded Chignecto. cliffs of from 200 to 600 ft., which chits of from 200 to 600 ft., which here and there overhang the coast, lies the fertile valley of the Annapolis. On the Atlantic side of the coast between Cape Canso and Cape Sable is situated the harbour of Halifax. The Pictou harbour is the most important on the N. coast. Minas Bay, an inlet on the eastern arm of the Bay of Fundy, penetrates some 60 m. inland, and terminates in some 60 m. inland, and terminates in Cobequid Bay. Sable Is. is the most important island off the coast of N. S. The principal rivers are: the Annapolis, Avon, Shubenacadie, the East, Middle, and West rivers of Pictou, the Musquodoboit, and the Lahave. The fresh-water lakes are: Lake Rossignol, situated in Queen's co., and 20 m. long; Ship Harbour Lake, 15 m. in length, and Grand Lake, both of tength, and Grand Lake, both of which are in Hallfax co. The climate of N. S. is more temperate than that of New Brunswick, and the air as a general rule is very wholesome. The population is 492,338. The principal peoples are of British Representative government was descent, while at Luneburg there is a granted as early as 1758, and a German colony. The Mecinas Indians fully responsible legislative assembly are scattere vince. The

Roman Catl Roman Cati
Baptists; there are not many Anglicans. The local council consists of Canada. See Duncan cans. The local council consists of Campbell, Nova Scotia, 1873: J. C. a Lower House of Assembly and of Hopkins, Canada: an Encyclopædia a Legislative Council of Twenty, at the head of which is appointed a licutenant-governor by the federal receptions. Novatian, a priest at Rome in the second content of the co

Heinrich von Oefterdingen in 1800, but free and compulsory. The chief uninever completed it. His works were versities are: King's College, Windsor collected and edited by his friends (Anglican), founded in 1790; Acadia Tieck and Schlegel.

Heenrich von Oefterdingen in 1800, but free and compulsory. The chief uninever compulsory. The chief unineversity are in 1800, but free and compulsory. The chief unineversity are in 1800, but free and compulsory. The chief unineversity are in 1800, but free and compulsory. The chief uninever compulsory.

Halifax (undenominational), founded in 1818. The fisheries are the most important industry in N. S., while lumbering, the manufacturing wood pulp for paper, and mixed farming occupy an important section of the population. The Intercolonial Railway, owned and worked by the Dominion government, is the chief means of communication with the other provinces. The Canadian other provinces. The Canadian Pacific and Grand Trunk railways have running powers within a certain part of the colony. The history of N. S. dates from the visit of the Cabots in 1497-98, but not until 1604 was any attempt at colonisation made by Europeans. In that year a number of French colonists established themselves here. The settlements formed on the modern sites of Annapolis and St. Croix (New Brunswick) were assailed by the Jesuits in 1613 and the English colonists of Virginia, both of whom expelled the French. The old whom expelled the French. The old name of the colony, which was Acadia, was changed for N. S. by Sir William Alexander in 1621, who received a grant of the peninsula from James I., intending to colonise the whole of it. Having found, however, that the localities suitable for settlement were already occupied the colonists realready occupied, the colonists re-turned to the mother country. The French were granted the possession of the colony by the Treaty of St. Germain-en-Laye (1632). The French settlers, however, quarrelled among themselves, and Cromwell in 1654 sent a force to occupy the settlement. Charles II., by the Treaty of Breda (1667), restored N. S. to the French. But not until Britain took possession of the colony in 1713, according to the Treaty of Utrecht, was peace possible among the colonists. In the Treaty of Paris (1763) France resigned all claim upon the country, and in 1820 Cape Breton united with N. S. in 1848 through the

of Joseph Howe. In nce entered the Do-mada. See Duncan

Christianity after reaching manhood, government for a term of five years. Christianity after reaching manhood, Education throughout the colony is and was admitted to holy orders by

who had lapsed during the Decian persecution (250-51) N. opposed the policy of leniency adopted by Cornelius, Bishop of Rome. N. was in consequence put forward by his followers as a rival bishop. A Roman synod pronounced him schismatic, and he was excommunicated; but his influence spread, and Novatianism was long established in Carthage, Alexandria, Constantinople, and in Asia. They claimed to be especially and adopted the name of pari.' In their doctrine they Cathari.' denied the power of the Church to absolve from sin, and excluded all convicted sinners from the communion of the Church. Novation, the merging of one legal obligation into another so as to ex-

tinguish the former and give a right of action only on the latter. For example, A owes B £100 for money lent, and later signs a cheque for the B. cannot sue A on his amount. personal obligation to repay, but only on the cheque: and if the bank on which the cheque is drawn should fail in the meantime B would never get his money. A N. is invalid unless both parties consent to it. For example, the N. may take the form of substituting a new debtor (delegation in Scots law), and no creditor is bound without his consent to forego his rights against one man in exchange for rights against another who might well turn out to be a 'man of straw.' Au important effect of N. is that the extinction of the old debt or obligaextinction of the extinguishes all the rights and equities, e.g. heirs, attach-ing thereto, the reason being that the second contract stands on its own independent footing; but it would be otherwise if the new obligation expressly incorporated all the incidents of the old one. The term N. is rarely employed in English law, the effect of merger of old obligations being determined either by the ordinary principles of contract (q.v.) or by statute, e.g. in the case of transfers of the busiciples of contract (q.v.) or by statute, e.g. in the case of transfers of the business of life assurance companies by amalgama

Novello, Joseph Alfred (1810-96), an English singer and music publisher in 1829, in-

Novaya / Is. between it and the mainland. number of fjord-like inlets lie on the E. coast of N. Z. between the Matochkin Shar and 75° N. The W. coast is fretted with bays and promontories. On the S. is situated the bay of Salkbankhe.

Fabian. In the discussion about those the N. end of which is S. Goose Cape. thus forming the S. extremity Goose Is., in 72° N. Moller I lies between Goose Land and Cape Britwin, with several minor bays. On the W. coast of the N. island are Krestovaya, Mashirin, and Nor-denskjold bays, and to the N. are several groups of islands—Gorbovyi, Pankratier, the Gulf Stream and the Orange Is. N. Z and the Orange Is. N. Z. is mountainous, possesses many lakes and streams, and is intersected by deep, narrow valleys. Very little is known of the interior. The Novgorod hunters are said to have visited the island in the 11th century. With the discovery of the N.E. passage in 1553 began a series of expeditions. In 1556 Stephen Borough was the first western European to reach the eastern extremity of the island. The famous Baron Nordenskjold investigated the whole of N.Z. in 1876-77. Among the later explorers are H. J. Pearson (1895-97) and O. Ekstam (1900-3). The climate varies in parts, and glaciers are rare. There is practically no animal life on the island. There are a few lemmings and brown and white bears. On the coast abound birds, whales, seals, walruses, and dolphins. There is a small Russian

colony on the S. island. Novelda, a tn. in Spain in the prov. of, and 15 m. N.W. of the tn. of, Alicante. It has manufs. of lace, and there are sulphur springs in the neighbourhood. Pop. (est.) 12,000. Novellæ, see JUSTINIAN'S LEGIS-

LATION. Novello, Clara Anastasia (1818-1908), an English soprano singer, daughter of Vincent_N., born in London and trained in Paris. She made her first public appearance in England in 1832, and from then until her retirement in 1860 she was regarded as one of the greatest vocalists in concert, opera, and oratorio, both in England and on the Continent. See her Reminiscences,

compiled by her daughter (1910).

ng the publication of cheap the coast the coast of two large islands separated by the Matoch-lin Shan, N. Z. forms a continuation of the Pag Khoy hills, with Vaggach sole proprietor; but the firm has con-

tinued as Novello & Co.
Novello, Vincent (1781-1861), an
English musician and composer, born in London, where he held posts as organist from 1796-1822. He edited the Musses of Haydn and Mozart, the of Sakhanikha. Farther N. the works of Palestrina, and other fine Kostin Shar Straits separate Mezh-dusharskiy Is. from the coast, to He composed a yast quantity of Chris

sacred music, and with his publication | date, the best is Xenophon of Epheof the first volume of his original work in 1811 laid the foundation of the publishing firm of Novello & Co.

Novels. The N. and the so-called romance may conveniently be included here under the common definition of prose narrative fiction.

1. Ancient classical prose fiction.— The earliest Greek compositions of a fictitious character, of which we possess any knowledge, are the Milesiaca, or Milesian Tales, said to have been written chiefly by one Aristides. In Greece Proper, nothing was done, so far as we know, in the way of N. or romance, until after the age of Alexander the Great. Clearchus, a disciple of Aristotle, wrote a history of fictitious love-adventures, and is thus, perhaps, to be considered the first European Greek novelist, and the first (react

Diog four Apis... beyond Thule), was founded on the wanderings, adventures, and loves of Dinias and Dercyllis. The first names that occur in the new series are Lucius of Patra (Patrensis) and Lucian, who flourished in the 2nd century A.D., during the reign of Marcus Antoninus. The next notable name is that of Heliodorus, bishop of Trikka, who flourished in the 4th century A.D. This Christian writer, whose Loves of Theagenes and Charicleta is really the oldest extant crotic romance, has far excelled all his predecessors in everything that can render a story interesting or excellent; and his charming fiction obtained a great popularity among such as could read, and all the subsequent Erctikoi deliberately imisubsequent Excitor denorately imitated his style and manner, while he was not less certainly used as a model by that once celebrated but dreadfully tedious school of heroic romance which flourished in France during the 17th century, and whose best-remembered representative is Mademoiselle de Scudéri. Tasso, Curvini all'Iris and correct other.

batim-from Theagenes and that next inv.... point of time, the Daphnis of Longus, is of a totally character. It is a simple at. esque prose-pastoral, with no poison- (1) those relating to Arthur (a.v.) and ings, murders, magic, supernatural- the Knights of the Round Table; ism, or impossible exploits. Daphnis (2) those relating to Charlemagne ism, or impossible exploits. Daphnis (2) those relating to Charlemagne and Chloe is the only pastoral romance (q.v.) and his Paladins; (3) those produced by any Byzantine author, relating to Amadis de Gaul (q.v.) and

sus, whose romance, entitled Ephesiaca, or the Loves of Anthia and Abrocomas, is in ten books. It is, however, perhaps worth mentioning, that in the romance of Xenophon we meet for the first time with the story of the love-potion, the pretended death, and the mock-entombment of the heroine, which forms the leading incident in Shakespeare's Romeo and Juliet. Then there appeared a work which was essentially a romance, and was composed expressly for the purpose of recommending the ascetic form of Christian life, the Barlaam and Josaphat, the author of which is unknown. This during the middle ages was translated into every lan-guage of Christendom. In the 2nd century A.D. Appuleius wrote his Ass (called from its excellence the Golden It supplied Boccaccio with some of his stories, and the author of Gil Blas with the picturesque incidents of the robbers' cave, and contains in the episode of Cupid and Psuche one of the loveliest allegories of classical antiquity.

2. Romantic fiction in Western Europe is a completely new growth, the product of new historical circumstances, which were but very slightly affected by Byzantine influences; and it transports us into a world of ideas, sentiments, beliefs, and actions, as different from what we find in the Erotikoi as could well be imagined. When we read the Erotikoi we are reminded that we are in the midst of a corrupt and decaying civilisation; when we turn to the romances of chivalry, we feel that we are in the presence of a youthful, healthy, vigorous, and growing social life. These romances generally consist of a series of extraordinary and utterly impossible exploits, in which the magic, the mystery, and the enchantments of the Arabian Nights are rivalled or outshone; but this proves no more than that the races of Western Europe were boundlessly ignorant, credulous, and wonder-loving. Mediæval romance appears loving. Guarini, d'Urfé, and several other to have had its root and foundation in modern writers, have drawn many Chivalry, and although the exploits particulars—sometimes almost ver- and the marvels may have often been

from foreign sources, yet the scenery, sentiment, and life of horoughly reflect the of the earlier ages of ne mediæval romances nto three great series:

produced by any Byzantine author, relating to Amadis de Gaul (1,12) and Of three Xenophons, also noted his descendants. Besides the three among the Erotikoi, and of uncertain distinct series of romance above

mention, in which the heroes of an-crooked ways of politicians, and the tiquity are grotesquely tricked out in the costume of medieval knights. The principal are the romance of Jason and Mcdea, of Hercules, of Edipus, and of Alexander. They are all written in French, and the first two profess to be the work of a Raoul

le Febre. 3. Development and influence of fiction in Italy .- The Italians originated no romances of the kind de-scribed above. The earliest Italian work of this sort is the Cento Novelle Antiche, commonly called Il Novel-lino. It is a compilation by different hands, all unknown. It was followed in 1358 by the Decameron of Boccaccio, the finest in point of humour, sentiment, and style, but not more original in the matter of story than Il Novellino. Its influence on early European literature was prodigious. Chaucer and Shakespeare in England have been in particular greatly in-debted to it for incidents and plots; while in France Boccaccio had a number of distinguished imitators. In his own country his influence was so overwhelming that for some centuries Italian novelists could do nothing more than attempt to copy him. The principal of these imitators are Franco Sacchetti, Ser Giovanni, Salerno, Sabadino Agnolo Firenzuolo, a, Molza, Giovanni Massuccio di Sabadino Arienti, delli Agnolo Luigi da Porta, Molza, Giovanni Brevio, Girolamo Parabosco, Marco Cademoste da Lodi, and Giovanni Giraldi Cinthio. Cinthio was the greatest favourite of all the Italian novelists with the Elizabethan dramatists. Besides these we may mention Antonio Francesco Grazzini, Straparolo, and Bandello. A few words may also be devoted here to a very different class of fiction—the spiritual romance. It originated in the bosom of the Church. The first of the series is Barlaam and Josaphat, but by far the greatest work of the kind produced during the middle ages is the Legenda Aurea, or Golden Legend. Besides these may be mentioned a species of spiritual tale, the Contes Dévots, prevalent in France during the 12th and 13th centuries, which was written by monks.

ROMANCE OF THE 16TH AND 17TH CENTURIES.—During the 16th and 17th t kinds of N. W

romanuc, (3) the pa romance. '

degins in (q.v.), styled by an incomplete pastoral of Arcadia, and the Father of Ridicule. Rabelais, in Bunyan's Pilgrim's Progress, we meet his inimitable burlesque romance, with nothing in the shape of a novel scotls (with the tone of a sceptic, how- or a romance for a hundred years. It

mentioned, a fourth perhaps deserves | ever) at the vices of the clergy, the jargon of philosophers. The next remarkable romance of a comic nature is the Vita di Bertoldo of Julio Cesare Croce, a work recounting the humorous and successful exploits of a clever but ugly peasant, which for two centuries was as popular in Italy as Robinson Crusoe or the Pilgrim's Progress in England. A few years later appeared Don Quixote (see CER-VANTES), in which 'war to the knife' was proclaimed against the romances of chivalry. Almost contemporaneous with Don Quixole was another Spanish romance, Matteo Aleman's Life of Guzman Alfarache, which gave birth to a host of Spanish romances with beggars and scamps for heroes, of

which the best is the Lazarillo de

of the series is the Utopia of Sir Thomas More; next comes the Argenis of Barclay, published in 1621; and to the same class belong a variety of French romances, of which by far the most famous is the *Télémaque* of Fénelon. *Pastoral romance*.—The first important work of the kind is the Arcadia of Sannazzaro, written in Italian. It was followed by the Diana of Montemayor, written in Spanish, several of the episodes of which are borrowed from the Italian novelists, while Shakespeare has in turn directly taken from it the plot of the Two Gentlemen of Verona, as well as some of the most Midsummer . \cdot in this class ney's Arcadic. first of this heavy series was the His suc-Polexandre of Gomberville. cessor, Calprenede, wrote Cleopatra, Cassandra, and Pharamond. But the most prolific of the school is Madame

NOVELS AN 18TH CENTURY nations that r guished themse....

Grand Cyrus,

of fiction during this century were England and France.

de Scudéri, whose principal romances are Ibrahim ou l'Illustre Bassa, Clclie,

Histoire Romaine, Artamenes ou le

English prose fiction.—During the The comic age of Elizabeth and her immediate romance, successors, the from almos

18th century England was entering on the most prosaic, unimaginative, and unheroical period of her history. Its characteristics are faithfully reflected in most of her novels, which possess a great historical value apart altogether from their literary merits. The first name that occurs is that of the notorious Aphra Behn, the greater number of whose novels, of which Oronoko is the best known, appeared towards the close of the reign of Charles II. But the first novelist of great genius belonging to the new era is Daniel De Foe, the father of modern English prose fiction, in whose writ-Singleton, The Hotorures of Captain Singleton, The History of Colonel Jack, etc.—the coarse, homely, unpoetical, but vigorous realism of the time is strikingly apparent. Robinson Crusse is the homest and the most forces of is the finest and the most famous of all that class of fiction which was extensively cultivated in both France and England. After De Foe comes Richardson, whose novels are Pamela. Sir Charles Grandison, and Clarissa Harlowe. Fielding thought Richardson untrue to nature, and wrote his first novel, Joseph Andrews, as a burlesque on the style of his predecessor. Like his subsequent performances, Tom Jones and Amelia, it represents society as Fielding's sharper eyes saw it—on the whole, gross, vulgar, and impure. Smollett continues to paint in the same spirit. His chief works are Roderick Random, Peregrine

impossible to class him with any of his contemporaries. Four years later appeared Goldsmith's Vicar of Wakefield, in which a change for the better, in a moral point of view, is first noticeable. With the exception of Richardson, all the novelists above mentioned are usually described as humorists. The publication of Percy's Reliques re-awakened an interest in the age of chivalry and romance. The first of the modern romantic school was Horace Walpole, whose Castle of Otranto appeared in 1769. It was followed by Clara Reeve, the authoress of the Old English Baron; but the greatest genius in this line was undoubtedly Mrs. Radcliffe, whose Mysteries of Udolpho and other works were core obundantly initiated. were once abundantly imitated. Her ablest successors were Matthew Gregory Lewis, author of The Monk. and Maturin, author of Montorio.
Romance in which the incidents,

though natural, are purely imaginary.

—This class corresponds with the modern conception of the novel, and Hoffmann.

is certain that at the beginning of the probably had its prototype in La Princesse de Cleves and Zayde, by Madame La Fayette; but the first great name that adorns it is that of Marivaux, whose Vie de Mariamne and Paysan Parvenu were long in high fayour. Next to Marivaux comes the Abbé Prevot, chiefly remembered by Manon L'Escaut. Other writers belonging more or less strictly to the same division are Madame Riccoboni and Rousseau.

Humorous and satirical romance.—

By far the

of this kind

the Diable Louis de Salamanque of Le Sage. Voltaire may fairly claim to rank among these in virtue of his Candide, Zadig, L'Ingénu, and La Princesse de Baby-

lone.

Fairy tales, etc.—The immediate forerunner and prototype of the French fairy tales was the Pentamerone of Signor Basile. This attracted and stimulated the fancy of M. Charles Perrault, whose Histoires ou Contes du Temps passe appeared in 1697. His principal successors were the Comtesse d'Aunoy, Mme. Murat, Mile. de la Force, and Mme. Vil-leneuve, whose *La Belle et le Bèle* (Beauty and the Beast) is perhaps the most beautiful creation of this fantastic form.

Prose fiction of Germany during 18th and 19th centuries.—Towards the close of the century writers became more numerous, and as the literary activity of many of them continued on till the first or second quarter of the 19th century, it will be most convenient and natural to treat both centuries together. The first eminent German novelist of this period was Wieland. The principal names of novelists influenced by Richardson and Fielding are August la Fontaine, Wetzel, Müller, Schulz, and Hippel. Almost contemporary with these there flourished for a brief period (1780-1800) a school whose works had their poetic counterpart in Schiller's Robbers. The chief writers of this 'turbulent school of fiction' are Cramer, Spiers, Schlenkert, and Veit Weber. Alone, and far above all others in redundancy and originality of fancy, humour, and pathos, towers Jean Paul Richter. Apart from all schools stands Johann Wolfgang Goethe (q.v.), whose novels, as well as his poems, are poetico-philosophic efforts to represent, perhaps to solve, the great facts and problems of human life and destiny. Other distinguished names are those of Ludwig Tieck, De la Motte Fouqué, Chamisso, Hein-rich Steffens, Achim you Arnim, Clemens Brentano Zschokke, and

19TH CENTURY: English fiction .-Almost the first novelist that we encounter in the 19th century, Sir Walter Scott, is probably the greatest that England, or even the world, has Possessed at once of far ever seen. greater antiquarian learning, imaginative genius, sound sense, and in-stinctive taste, than any of his romantic' predecessors, he knew precisely what to shun and what to choose. The political reaction that took place in Britain showed itself in literature too, and Sir Walter Scott was its grandest representative. He strove to delineate the Past as it seemed in the eyes of men who were dubious of the Present and afraid of the Future. The overpowering genius of Scott necessarily led to 'endless imitation,' but the only one of his followers that holds a tolerably decent position in literature is G. P. R. James. Galt and Wilson portrayed aspects of Scottish life which the author of Waverley has passed over. Moore's Epicurcan has all the sparkling and superficial splendours of his verse. After Scott, the next novelist who distinctly marks a new stage in the development of fiction is Sir Edward Bulwer Lytton. During the middle half of the century the greatest names are unquestionably those of Dickens, Thackeray, and Miss Evans; but besides these might be mentioned a host of others, who have attained either celebrity or popularity, or both. We have the nautical novels of Marryat; the political novels of Benjamin Disraeli: the sporting and military novels of Lever; brilliant 'muscular Christian novels of Kingsley; the 'governessnovels,' as they have been aptly denominated, of Miss Bronte; the 'school novels of Hughes and Farrar; and the 'sensational' novels of Wilkie Collins, Miss Braddon, and others. authors not less eminent are Mrs.

French fiction during the 19th century. The only tolerably gifted writer of fiction who figures during the First Empire is Le Brun. Chateaubriand and Madame de Staël may be mentioned, and Charles Nodier, though voluminous, was not an original novelist. After the revolution of 1830 France began to display a wonderful literary activity. Unhappily for the purity of its literature, the regime of the restoration, which followed the deliverance of France from a military despotism, was itself a base, corrupt, and prolligate thing, and the poeties witchery of a religious mysticism cannot blind us to the fact that the

Oliphant and Charles Reade

NOVELS AND ROMANCES OF THE | Kock, Balzac, the Dumas, father and son, Sue, Madame Dudevant, though wholly dissimilar to each other in the quality of their genius, are wofully alike in the baser element of the national fiction. Victor Hugo and Lamartine are morally far above the rest of their contemporaries.

In a comprehensive sketch like the present it would be a blemish to omit at least the names of the more eminent American novelists, as they have contributed not a little of late years to the stock of English prose fletion. The most notable are Brockden Brown, Fenimore Cooper, Washington Irving, Edgar Allan Poe, Nathaniel Hawthorne, and Oliver

Wendell Holmes.

The foregoing is a short summary of the earlier 19th century N., and it remains to give a still more brief account of the novelists of the later part of the century. This must be brief for two reasons—first, because many of these authors are still living, and this article is to exclude such; and second, because the worth-sifting influence of time has yet to be effective. On the whole the tendency of the novel of this period is away from the exclusive consideration of individual character and actions and towards the examination of grave social problems. This tendency did not reach its maximum in the period under discussion, but there is abundant evidence of its existence. Chief among these fin de siècle novelists are George Meredith and Oscar Wilde in Trollope England. Anthony Mark Twain in America, Emile Zola in France, and Tourgeniev and Leo Tolstoy in Russia. For further details, see articles under these names and

see articles under these names and also articles on many living authors. See also Dunlop's History of Fiction (London), 1814; G. Saintsbury, The English Norel, 1913.

November, the eleventh month of the year, derives its name from the Latin novem (nine), as, until the Julian arrangement, it was the ninth month of the old Rangur year which month of the old Roman year, which began in March. There are thirty days in the month; the 11th was considered by the Romans as the beginning of winter, and the epulum Jovis (banquet of Jupiter) was held on the

13th.

Noventa: 1. A vil. of Italy in the prov. of Vincenza, 17 m. S.W. of Padua. 2. A vil. of Italy, on the Piave in the prov. of, and 17 m. N.E. of the city of, Venice. Pop. 6000.

Novgorod, a gov. of N.W. Russia, bounded W. and N. by the governments of St. Petersburg and Olonets, stretching from S.W. to N.E. 450 m. Area 45,770 sq. m. Pop. 1,638,500. substance of most of the French Area 45,770 sq. m. Pop. 1,638,500. fletions is incurably immoral. Paul de The S. is occupied by the Valdai over 1000 ft.), as well as the sources of nearly all the great rivers of the country. Forests occupy about 55 per cent. of the total area. There are country. vast beds of Devonian limestone and sandstone overlaid with carboniferous limestone, dolomite, sandstones, and marles throughout the country, and numerous remains of the Neolithic Stone Age are found. The chief river, the Volkhov, flows from Lake Ilmen into Lake Ladoga, and all boats from the Volga to St. Petersburg pass through this government. The severe climate and marshy soil rne severe cumate and marsny soil render agriculture very unprofitable. Fireclay, coal, and turf are extracted. The chief industries are: building, fishing, shipbuilding, and the domesticarts. The people are exclusively Great Russians. The Orthodox Greek Church claims about 96 per cent. of the population

the population.
Novgorod, formally known Velikey Novgorod (Great Novgorod), a tn. of Russia and cap. of the gov. of the same name, and the seat of the archbishop of the Orthodox Greek Church. The town is situated 119 m. S.S.E. of St. Petersburg, and lies on the banks of the Volkhov, 2 m. from its source in Lake Unex. its source in Lake Ilmen. Pop. 26,972. The kremlin, or citadel, is situated on the N. shore of the river, situated on the N. shore of the Ivela, and includes the cathedral of St. Sophia, which was built about the middle of the 11th century. It fell into decay, but was restored between 1893 and 1900. In this building are preserved many valuable relics. The preserved many valuable relics. Yaroslav Tower is historically connected with the common council which used to meet there. There is also a monument erected to commemorate the thousandth anniversary of the foundation of Russia (built 1862). Another similar monument has been erected to perpetuate the repulse of Napoleon in 1812. Previous to the Tartar invasion, N. with Kiev was the chief centre of the Russians. They selected their princes from the sons of their liberator Yaroslav, or the other branch of the family of Rurik. They carried on trade with the Hanseatic and Scandinavian cities, and colonised the basins of the Northern Dwina. They also descended the Volga in the 14th century, and made trading ex-peditions as far as Siberia. Their peace was at last disturbed by their struggle against the Suzdal reign, followed by the agreechments of the followed by the encroachments of the Swedes and Germans. These invaders they repulsed in the battles at Ladoga (1240) and Pskov (1242). The marshes of their country prevented spondence of Madame Ola Novikov a Mongol invasion in 1240 - 42. (ed. by W. T. Stead), 1909.

plateau, in which are the highest Ivan III. and his Moscow followers elevations of middle Russia (600 to in 1456 attacked her after depriving her of two colonies; and she at last had to fight desperately for her liberty, which she did with small success under Marthe Boretskaya, the mayor. Ivan III. entered N. and deprived her of (the Terrible) bi

and put some 15 to the sword.

position on the water-highway from Volga to St. Petersburg and her connection with the trunk-road to Moscow, her commercial importance can never hope to regain its former Its manufs, and trade are position.

msignineant.
Novgorod-Syeversk, a tn. of S.W.
Russia in the gov. of Chernigov. 110
m. N.E. by E. thereof, on the r. b. of
the Desna. There are brickfields, tanneries, and manufactures of soap. Pop. 10,000.

Novi, or Novi Ligure, a tn. of Piedmont, Italy, in the prov. of, and 14 m. S.E. of the city of, Alessandria. Weaving and the manufacture of silk goods are important industries. Pop.

18,000. Novibazar, or Novipazar, the cap. of the sanjak of N., European Turkey, on the Rashka, 120 m. S.E. of Bosnaserai. Chief features are the old church of St. Peter and St. Paul, and the ruins of an ancient citadel and Roman baths. The town is of great strategic importance surrounded by a 18,000. strategic importance, surrounded by a ring of forts and commanding the main highways between Bosnia, Ser-via, and Montenegro. Pop. 12,000. The sanjak has an area of 2840 sq. m. and a population, consisting chiefly of Slavs and Albanians, of 175,000.

Novice, an appellation given to persons of either sex, who live in a monastery in a state of probation, before becoming professed members of a monastic order. The N. must have attained puberty before entering, and remain at least twelve months. Any one new at a business is also termed a N.

Novikov, Madame Olga (née Kireef) (b. 1840), a Russian political writer, born in Moscow. She lived much in England, making many influential friends, including Gladstone, King-lake, and Carlyle, and striving by her writings to bring about an Anglo-Russian friendship and alliance. Russian friendship and alliance. Under her maiden initials 'O. K. she Under ner maiden initials O. R. She contributed to the English papers, and has published Is Russia Wrong? 1877: Friends or Foes? 1878; Russia and England (reviewed by Gladstone), 1880; Skobeloff and the Slavonic Cause, 1883. See The M.P. for Russia—Reminiscences and Corre-

Novikov, Nikolai Ivanovitch (1744-1818), a Russian author who founded a review at Moscow entitled Jivo-pissets (the Painter) in 1769, and managed the Gazette of Moscow. The review was suppressed in 1774. was later imprisoned by the order of Catherine II.,

until the reign of include Russian and the Dictionar

Novo-Cherkask, or Novo-Tcher-kask, cap. of the Don Cossaeks ter., S. Russia, at the junction of the Don and the Aksai, 40 m. from the Sea of It has a flourishing trade. Its new cathedral was completed in 1904.

Pop. 53,473. Novo-Georgievsk: 1. Or Krylov, a tn. in the gov. of Kherson, S. Russia, at the junction of the Tyasmin and the Dnieper, 17 m. W.N.W. of Kre-menchug; has a large trade in timber, grain, and cattle. Pop. 11,214. 2. Or Modlin, a first-class fortress of Russian Poland, 23 m. N.W. of Warsaw, at the junction of the Narev and the Vistula. Sustained severe sieges in 1813 and 1830-31.

Novograd-Volinski, a tn. in the gov. of Volhynia, W. Russia, about 50 m. W.N.W. of Zhitomir. Pop. 17,000.

Novo-Hamburgo, a German colony in Rio Grande do Sul, Brazil, about 32 m. N.W. of Porto Alegre.

Novo-Moskovsk, a tn. in the gov. of Ekaterinoslav, Russia, on the R. Pop. 13,000. Samara.

Novo-Petropolis, a German colony in Rio Grande do Sul, Brazil, 45 m. N. of Porto Alegre. Pop. 12,000. Novo-Radomsk, a tn. in the gov. of

Piotrkov, Russian Poland, on the r. b. of the Warta. Pop. 12,500. Novorossiisk, a seaport of Russia, on the Black Sea, 60 m. W.S.W. of Ekaterinodar. Has trade in cereals and petroleum. Pop. 45,000. Pop. 45,000. and petroleum.

Novotcherkask, or Novo-Tcher-

kask, see Novo-Cherkask. Novo-Uzensk, a tn. in the gov. of

Samara, Russia, on the Uzen, 110 m. S.E. of Saratov. Pop. 14,000.

Novo-Zybkov, a tn. in the gov. of Chernigov, Russia, 68 m. N.N.E. of It manufactures Chernigov. candles, sailcloth, pottery, and carriages, and also has tanneries. 16,000.

Nowawes, a vil. of Prussia, suburb of Potsdam, with a weaving industry.

Pop. 23,754.

Nowgong: 1. A dist. of Assam, India. Area 3843 sq. m. Pop, 260,000. 2. Cap. of the dist. of the same name, on the Kalang R., 60 m. E. by N. of Gauhati. Pop. 5000. 3. A tn. and a military cantonment, Bundelkhand, India. Its college was established in memory of Lord Mayo. Pop. 12,000.

Nox (Gk. vúš), in mythology, was personification of night. cording to most writers Nox and Erebus were the children of Chaos, and they, in their turn, gave birth to Æther and Hemera. She is usually represented as winged, and clothed in some dark material.

Noy (or Noye), Sir William (1577-1634), an English jurist, attorney-general, was born in Cornwall. In 1603 he was elected to parliament, and until his death sat for Cornish constituencies in every parliament save one. Some years before his death he changed his allegiance to the court party, and in 1631 was made attorney. general. He was in favour of the imposition of the famous 'ship-money tax. Among his works may be men-tioned On the Grounds and Maxims of the Law of this Kingdom, 1641; The Compleat Lawyer, 1661.

Noya, a scaport in the prov. of Corunna. Spain, 45 m. S.W. of Cor-unna. Manufactures include paper, soap, and leather. Pop. 10,000.

Noyeau, or Crême de Noyeau, a French liqueur. It is usually manufactured from brandy and flavoured with bitter almonds or the kernels of the peach or apricot stone. There are two varieties of N.-pink and white.

Noyes, Alfred (b. 1880), a poet and author, began his literary career as a contributor to various magazines. among them, Blackwood's, The Spectator, Fortnightly Review, The Bookman, The Cornhill, and The Nation. He has also written for American publications, and in February 1913 left England for a tour in the United States, where he lectured on poetry. Among his other works are: The Loom of Years, 1902; The Flower of Old Japan, 1903; The Forest of Wild Thyme, 1905; Drake, 1908; William Morris (English Men of Letters), 1908; The Enchanted Island and other Pagents 1909; The Tenule of 1908; The Enenance control of the Poems, 1909; The Temple of Beauty, 1910; and Tales of the Merical

Noyes, John Humphrey (1811-86). founder of the Perfectionists, born at Brattleboro, Vermont, U.S.A. eventually founded a community at

Putney, the ter communism in marriage. The sees are to Oneida, New York, but N. found himself in difficulties owing to his free ideas with regard to marriage. wrote The Berean, 1847: The Doctrine of Salvation from Sin explained and defined, 1843; History of American Socialism, 1870.

Noyon, a tn. in the dept. of Oise. France, 67 m. N.E. of Paris. Its cathedral dates from the 12th century. It has also a bishop's palace.

Nubar Pasha (1825-99), an Egyptian statesman, born in Smyrna; educated in the Christian faith, and studied in Europe. He was secretary to Abbas Pasha, and afterwards to Ismail Pasha. About 1867 he became About Minister for Foreign Affairs, while he held that office was instrumental in bringing about the use of mixed courts of law to try cases be-tween Egyptians and Europeans. From 1884-88 and 1894-95 he held chief power under the English.

Nubia, a tract of country, with no precise limit, in N.E. Africa, anciently known as Ethiopia. The ancients gave the name of Ethiopia to the W. bank of the Nile, from Meroe to the bend of the river. The name may have been derived from the Egyptian and Coptic Noub, or Gold, a name still retained in Wady Nouba, which extends from the frontier of Dongola, N. of the Wady Seboua, above Derri. The tract between Seboua and Assouan is called the Wady Kenous. Diocletian removed hence a Lybian tribe, called Nobate, to the district above Syene to oppose the Blemmyes, who inhabited the western desert, now held by the Ababde and Bisharein Arabs. The dominion of the Pharaohs, when most extended, reached to the Isle of Argo, the last place where the monuments of the Egyptians have been found. Under these monarchs it was called Kush, and was governed by a royal scribe, entitled Prince of Kush, or Ethiopia, till the twentieth dynasty, when it appears to have been recovered by a series of native rulers, who ultimately conquered Egypt; and although driven back, finally extended their rule from Meroe to Syene, the most southern city held by the Egyptian monarchs, the Ptolemies, and the Romans. These Ethiopians adopted the civilisation of the Egyptians, and the names of some of their monarchs have been preserved. The subsequent fortunes of this country will be seen under ETHIOPIA. The modern inhabitants consist principally of Arabs, who invaded the country after the rise of Mohammed, the principal tribes being atonammed, the principal tribes being the Djowabere and El Gharbye, who inhabit from Assouan to the Wady Halfa. This part of the country is called Lower N., and is under Egyptian jurisdiction; Upper N. belongs to the Anglo-Egyptian Sudan. The chief attractions of this country to travellers are the numerous termles. to travellers are the numerous temples and other ancient remains of the Egyptians, extending from Philæ to the island of Argo. These consist of

The chief industries are sugar refining, tanning, and the manufacture of textile goods. N. is the birthplace of tinued by the Ptolemies; the temple of Deboud, built in honour of Amen Ra, by Ataramen, and continued by the Romans; Tafa or Taphis, the modern Kalabshe, built by Ra-meses II.; the rock temple of Beit e Welly, recording the conquests of the same monarch; Wady Halfa, built by Osertesen I.; the rock temple of Ibsamboul, built by Rameses II.; Gebel Addeh, built by Horus of the contract of the way to be the contract of the same and the contract of the same and the sam eighteenth dynasty; Ibrim, built by Amenophes II.; Amada, founded by Thothmes III.; Ghersheh, Seboua, Thothmes III.; Ghersheh, Seboua, and Derri, built by Rameses II.; Dakkeh, the ancient Pselcis, built by Ergamenes; the Colossus of the Isle of Argo; and the Pyramids of Meroe and Tanquassi.

Authorities .- Nubian Texts (edited Wallis Budge, British by C. A. Wallis Budge, British Museum), 1909; The Egyptian Sudan (London), 1907; Our Soudan: its Puramids and Progress (London),

1905.

Nuble, an inland prov. of Chile, immediately S. of lat. 36° S., and crossed by long. 72° W. Its capital is Chillan (q.v.). Area 3555 sq. m. Pop.

170,000.

Nucleus (Lat. nucleus, kernel; nux, nut), the name given to the central portion of a comet. A bright comet consists of three portions, the star-like N., which fades by insensible gradations into the coma or nebulous haze surrounding it, and the tall, stretching in a direction away from the sun. The nuclei and comas of different comets vary in luminosity, but it is rarely that they can be separated by the naked eye.

Nucleus, see CELL. Nuddea, see NADIYA. Nueces, a riv. of Texas, U.S.A., rises in a plateau in the southern part of the state. Its course of about 400 m. is generally S.E. to Corpus Christi Bay in the Gulf of Mexico.

Bay in the Guir of Mexico.

Nuenberg, or Neuenburg, a th. of W.

Prussia prov., on the Vistula, 48 m.

S. of Danzig. Pop. 5155.

Nueva Ecija, a fertile prov. of

Luzon, Philippine Is. Capital, San

Isidro. Area 3840 sq. m. Pop. 133,000.

Nueva San Salvadan a dity of Salva-

Nueva San Salvador, a city of Salvador, Central America, 110 m. S.W. of Tegucigalpa. It was rebuilt in 1854 after an earthquake had destroyed the old town. Pop. 19,000. Nueva Vizcaya (New Biscay), a mountainous prov. of Luzon, Philip-

pine Is. Area 4685 sq. m.

(chiefly Negritos) 63,000. Nuevitas, a tn. of Cuba, on the N. coast, 35 m. N.N.E. of Puerto Principe. Mahogany, cedar, and other timbers are exported. Pop. 4500.

Nuevo Leon, a state of Mexico, on

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the N.E. slope of the E. Sierra Madre. | chief classes of public N. are: (1) The Monterey is the capital. Sugar and | carrying on of offensive or dangerous

grain are grown. Area 24,324 sq. m. Pop. 368,929.

Nugent, (1822-1905),James an philanthropist, English English philanthropist, born at Liverpool. The Catholic Total Abstinence League of the Cross, which now has many branches both in this country and America, was founded by him in 1872. He also established the 'Save the Boy' Refuge and a

Magdalene Home. Nuisance is a comprehensive term law. Though it is not difficult in law. to say what acts or omissions in practice constitute a public or common N., and render the offender liable to criminal proceedings, it is by no means easy to say exactly when an act or omission will amount to a private N., so as to ground a civil action at the instance of an individual. In principle the distinction between public and private Ns. is not one of kind, but depends rather upon the extent of the operation of the evil, and it is for a jury to say whether a sufficiently large number of people are or may be affected so as to render a N. criminally punishable. The difficulty of determining in any individual case whether an act amounts to a private N. arises from the fact that private Ns. for the most part concern one's control or enjoyment of land or house property, and neither judges of fact nor juries are disposed to curtail the liberty of the subject by construing as a N. an act which is incidental to or arises out of the carrying on of an otherwise legitimate business. For example, it may be very unpleasant for private dwellers that the owner of adjacent vacant land proposes to sell his land to a company which intends to build a soap factory on it; but there is no remedy (apart from the possible effects of restrictive covenants) against the company to prevent the carrying on of that soap manufactory other than an action for damages, or for an injunction to prevent them from so carrying it on, as by the emission of smoke or the causing of a great noise and vibration as actually to interfere with the enjoyment of the house as a dwelling-house. A public or common N. is an act or omission which disturbs or is liable to disturb the normal state of order and comfort of the public. Public Ns. are indictable (see INDICTMENT) as misdemeanours, but will also form the ground of a civil action at the instance of any one or more persons who can prove that they are peculiarly aggrieved or affected in some way over and above the annoyance caused to the public at large.

trades or manufactures. In these cases it must be shown that the trade or manufacture in the way it is carried on is so offensive to the senses of smell and hearing (for the practical English mind has not yet risen to the level of prohibiting criminally or civilly anything which merely offends the eye or spoils a 'fair prospect') as to deof spins a rail piscet / as to de-tract sensibly from the enjoyment of life and property in its neighbour-hood. (2) Ns. to highways, bridges, and public rivers, e.g. pitching rub-bish on to a road, polluting a river with factory refuse, causing riotous crowds to assemble, etc. (see also HIGHWAYS). (3) Bawdy, disorderly houses, gaming and betting houses, unlicensed or improperly conducted play houses. (4) Lotteries (q.v.). (5) A large and heterogeneous number of acts empirically referred to the class of Ns. by various judicial decisions, e.g. eavesdropping, keeping a corpse unburied if the defendant can afford the burial, publicly exposing persons afflicted with infectious Private Ns. include inter diseases. alia: (1) Acts derogating from the enjoyment by an owner or occupier of land or house property of which he is actually in possession, c.g. flooding by the diversion of a watercourse, undermining by excavation. (2) Acts amounting to obstructions of rights of way or other easements or rights over the property of others, e.g. unlawfully enclosing a common, putting a gate across a public footway. Acts amounting to a continuous in-terference with the health or comfort of another in the occupation of his property. It is to be noted that a person is not debarred from a remedy by reason of having ' come to the N., thoug or co interf ' the

may long acquiescence. Instances of modes of annoyance held to be private Ns. are persistent ringing and tolling of large bells, loud music and noises incidental to circus performances, disorder from crowds attending firework displays, and obstruction of ancient lights (see LIGHT, RIGHT TO).

and t (Pollc

The principal and most effective remedy for a private N. is the injunction (q.v.), to the claim for which may be added a claim for damages. Abatement, or self-redress, though often successfully carried out in the case of obstructions to highways, is both hazardous and unsatisfactory. In the The case of a public N. a local sanitary

and if he omits to do so within the period allowed, can not only itself abate or remove the N., but recover expenses and penalties from the Sec On Torts; Pollock offender. Russell On Crimes; Harris, Principles of the Criminal Law.

Nukha, a tn. of Russian Transcau-casia in the gov. of Elizavetopol, 60 m. N.E. of the town of same name. The breeding of silkworms and a silk industry is carried on. Pop. (Tartars

and Armenians) 25,000.

Nullification, in the history of the U.S.A., a term used to denote the action of a state for rendering null and void any Act of Congress, or Federal Act, regarded by the state as unconstitutional. The application of the doctrine of N., or, more fully, N. and secession (i.e. from the Union) received its strongest expression in S. Carolina in 1830, during the agitation against the notorious Tariff Act of 1828, which imposed excessive duties on raw material and imported manufactures, and which has ever since been known as the 'Tariff of Abominations.' The doctrine of N. is associated largely with the name of John C. Calhoun of S. Carolina, then vice-president, but afterwards senator, who, in response to the invitation of the political leaders of S. Carolina, wrote the celebrated South Carolina Exposition of 1828, a document which after opening with the assertion of the unconstitutionality of the Tariff Act, discusses the right of the state to declare the Act null and void within the ambit of its own territory. This argument is based on the assumption that a Federal constitution is merely a contract entered into not by all the people of the U.S.A. but by each of the states, and that each component state has a right, consistently with its inherent sovereignty, to decide when, so far as its own boundaries are concerned, there has been any infraction of the contract by Congress. The S. Carolina 'Nullifiers,' having obtained no relief from Congress up to 1831, The S. inaugurated a campaign for the calling of a state convention to nullify the tariff. This policy at once split the whole country into two factions the 'Nullifiers' or 'the State Rights and Free Trade Party,' and the 'State Rights and Union Party,' Congress then made various concessions by amending the Tariff Act, in spite of the fact that the Nullifiers failed to secure a two-thirds majority of each branch of the Federal legisla-But as the Act had not yet actually come into effect the Nullifiers did not abate their efforts, and at the it surrendered. The town was razed ensuing election carried all before to the ground, and the few survivors

authority can require the offender to them, with the result that a state abate the N. within a specified time, convention held soon afterwards solemnly declared the Tariff Act (and its amending Act) null and void (Ordinance of Nullification). But the antipathy between North and South was too deep to allow the Nulliflers to win in the long run, and after the struggle over the Force Bill (empowering Jackson to collect the tariff duties in S. Carolina by force), a compromise was effected and the Ordin-ance of Nullification repealed. It is difficult to say how far the doctrines of N. is at all a valid principle of the constitution at the present day; but on the assumption that the ordinary courts are the sole arbiters of the constitutionality or otherwise of any Act the provisions of which happen to come before them, it is probable that the doctrine is obsolete. See The Cambridge Modern History, vol. vii., 1905. Nullity of Marriage, see Marriage.

Nullum Tempus Occurrit Regi (literally, 'Time does not run against the king'), a legal maxim which expresses the general rule that the right of the crown to sue or prosecute cannot be barred by lapse of time, and that the crown, unless expressly named, is not bound by the Prescription Acts. (As to the effect of lapse of time on the legal rights of the subject, see Limitations, Statutes of.) But there are many exceptions: (1) The crown cannot claim real property after adverse and uninterrupted possession by the subject for a period of sixty years;
(2) succession duty (see DEATH (2) succession duty (see DEATH DUTTES) cannot be recovered after twelve years from the death giving rise to the succession, nor after six years if the Inland Revenue authorities knew of the rights of the crown and omitted to take action; (3) actions for quit-rent or other perpetual rent or arrears in Ireland are barred after sixty years; (4) prosecutions for treason and misprision of treason (i.e. concealment), but not cases of attempted assassination of the king, must be undertaken within three years after the committal of the crime; (5) proceedings against usur-pers of corporate offices must be taken within six years after the usurpation; (6) summary proceedings before justices must be taken as a general rule within six months of the commission of the offence.

Numantia, an ancient tn. of Spain, in Hispania, Tarraconensis. It commanded a position of great natural strength, being situated on a steep hill. In 134 B.C. it was besieged by the Romans, under Scipio Africanus the younger, and for fifteen months it resisted famine and the sword, when it surrendered. The town was razed

were sold as slaves. 'Numantinus' was a was given to the victor Scipio. The village of Guarray marks the site of the ancient town. Recent excavations (1905-10) have revealed the entrenchments of Scipio.

Numa Pompilius, the second king of Rome, who belongs to legend and not to history. He was a native of Cures the Sabine country, and elected king one year after the death of Romulus. He was renowned for his wisdom and his piety; his reign was long and peaceful, and he devoted his chief care to the establishment of religion among his rude subjects. He instructed bу the Camena Egeria, who visited him in a grove near Rome, and who honoured him with her love. It was he who first appointed the pontiffs, the augurs, the flamens, the virgins of Vesta, and He founded the temple of the Salii. Janus, which remained always shut during his reign. He died after a reign of thirty-nine or forty-three vears.

Number of the Beast, see APOCA-

LYPTIC NUMBER.

Numbers, The Book of, forming the fourth book of the Hexateuch (q.v.), deals with the travels of the Israelites from the second to the fortieth year of the Exodus. It also contains various collections of laws, as, for example, in chaps. v. and vi. The particular institution of the Levites and a treat-ment of the priestly duties receive much attention (chaps. iii., iv., viii., xviii.). As in the case of Exodus, the two main lines of narrative are J. E and P, which generally appear side by side, but are sometimes harmonised. The first ten chapters and the later on Levitical regulations are mainly due to P. Sec BIBLE.

Numbers, Theory of. This science consists of the investigation of the properties of whole or integral numbers, all incommensurable num-It may be bers being excluded. considered as including the investigation of rational fractions. The general problem of the theory may be stated by the consideration of the solution of algebraic equations. If a given known quantit

minate, i.e. no .

equation is pos..... to the case of several equations, the Egyptianideographic within be taken total number of equations being less (see Higher Phics), it will be seen than the total number of unknown quantities contained in them. problem in the theory of numbers is to find every possible solution in which the unknown letters are integers. Several interesting properties of integers are proved by this theory. It is easily proved that the number of prime numbers is infinite.

The - title, | problem of finding in how many ways a composite number, i.e. a number which is divisible by numbers other than itself and unity, can be resolved into two factors, is solved generally. It also proves that the product of n consecutive numbers is divisible by /n, i.e. n(n-1)(n-2) . . . 1, thus $20 \times 21 \times 22 \times 23$ is divisible by /4, i.e. 4×3×2×1. Several other important properties are proved, among which Fermat's theorem is perhaps the This states that if most important. p is a prime number, and N is prime to p, then Np-1-1 is a multiple of p. From the practical standpoint this theory is of very little use. The data of practical applications of mathematics are in the nature of things only approximate, and thus any solution given in whole numbers is of very little interest. Thus this theory is very largely neglected by mathematicians, and is regarded by them as of mere theoretical importance. The first consideration of the theory probably took place in India, but the first book on the subject was written by Diophantus, the theory sometimes being called Diophantine Analysis. For further reading, the most interesting books are Legendre's Théorie des Nombres, and Garus's Disquisitiones Arithmetica.

Numerals. There are, according to the copious literature on the subject, two original modes of constructing numerical systems: (1) By a system of repetitions of a single unit, with the use of some hieroglyphic, or some other apparently arbitrary symbol by way of introducing the principle of multiplication when the repetitions become too many for practical use; (2) by the choice of letters of the alphabet. It has sometimes been assumed by palæographists that mere arbitrary invention is a third and obvious mode and the Hindu N. have been adduced in support. But a little consideration will convince one that, however obvious it may be to suggest arbitrary signs for the N. from 1-9, the relative positions of such signs according to a decimal, sexagesimal or any other equation contains two or more un-principle of periodicity indicates a known quantit . merely arbitrary system can

Again, if the analogy of that what to moderns may seem arbitrary is in reality a slow develop-ment starting from a simple if cumber-some principle, and worked out by a gradual and highly ingenious celecticism. Lastly, researches in Indo-Arabio paleography show that the Hindu system, all-important from the fact The that after being improved by the

Arabs it formed the basis of the idenote thousands. Tens of thousands system now in vogue throughout Europe, though admittedly obscure in origin, is not only clearly of high antiquity, but reveals on inquiry a foundation of still older systems, which began the only obvious mode viz., by repetitions of a single unit, and develop gradually by the use of zero, and a true denomination for each cipher, determinable on a decimal system.

The Romans and Greeks do not appear to have owed much to Oriental nations, and indeed the complete Indo-Arabic system with the zero was not introduced into Europe till the 12th century. Both the symbolical modes of expressing numbers to be found in Greek MSS, were taken from the Greek alphabet. In the older or so-called Herodian system (named after the grammarian who described it), the practice was to use the initial letter of the name of the number for its symbol, e.g. II for 5, \$\Delta\$ for 10, H (aspirate) for 100, X for 1000, and M for 10,000. This system occurs largely on inscriptions. In all cases 5 of any symbol were written by enclosing the symbol in Π : thus Δ is five tens. and Hi is five hundreds. The later system, which was widely used in the 37d century 8.0., was to make the first nine letters of the alphabet do duty for the units, and the remainder for the tens and hundreds, while three disused letters (two of which were taken from the Phenicians) were used as supplemental signs: these three were F, digamma, for 6, which later was written in the middle ages, G, like the stigma or combined σ and τ ; $\cdot \circ$, koppa, for 90; and a sign called sampi for 900 (san and a sign cancel sample for solv (some was an old letter written in Greek papyri in the British Museum as Γ , and from its resemblance to $pi(\pi)$ was called sample. This later Greek notation gradually superseded the Herodian gradually superseded the Herodian, and was as follows:-

a. I 9 80 $\overset{\rho}{100} \ \overset{\sigma}{200} \ \overset{\tau}{300} \ \overset{\upsilon}{400} \ \overset{\upsilon}{500} \ \overset{\varsigma}{600} \ \overset{\upsilon}{700} \ \overset{\omega}{800} \ \overset{\Xi}{900}$

1000 2000 3000 1000 5000 6000 7000

When used as N. and not as text, the letters were usually written with a horizontal stroke thus, \bar{a} , $\bar{\beta}$, while,

were indicated by dots, e.g. a. A. Special symbols were sometimes used for fractions, sometimes an accent or a line above the numeral indicated the fraction: as v or $v'=\frac{1}{2}$, $\gamma'=\frac{1}{2}$, $v\gamma'=\frac{1}{2}+\frac{1}{2}$, or $\frac{1}{2}$, $\gamma''=\frac{1}{2}$, $\delta'=\frac{1}{2}$ (Thompson's Greek and Latin Palæography).

Palæographists also note the Greek practice of numbering the successive

ur books but they

are careful to point out that this practice was as much a method of naming as of enumeration. The later Greek notation as detailed above was also in vogue among the Syrians and Hebrews. From the subjoined table it will be seen that the Hebrews gave the final letters a separate and particular value.

10 20 30 200 300 400 500 600 700 800 900

The great problem in all these various systems was to keep numbers of different denominations separate. It did not occur all at once even to the subtle Orientals to represent units. tens, hundreds, etc., by position, for the use of a sign for zero comes late in the developed Indo-Arabic notation. The old method of keeping digits distinct was by means of the abacus, or reckoning-board, consisting of balls strung on wires or rods set in a rectangular frame. The abacus was used both by the Greeks and the Romans. and is still used in many Oriental countries, especially China, for com-plex calculations. The movable balls are used as counters to record the steps in an arithmetical operation, and each column or compartment represented a particular value to be assigned to a counter or ball placed or moved on to it. The moment distinctive symbols or ciphers are used instead of counters to represent the numbers from 1 to 9, and a sign for zero used, the abacus or any other similar mechanical contrivance becomes superfluous, and the problem of calculation by reference to position is solved. Apparently Europe owes the whole of its modern arithmetic to the Indians and Arabians, for the decimal system or mode of reckoning by tens through the instrumentality of the zero comes from India through a norizontal stroke thus, ā, ā, while, the Arabians, somewhere about the as shown in the table above, a stroke 12th century, it being generally agreed was added to the first the contract of was added to the left of the symbol to among palaeographists that the once

celebrated Arabian mathematician, Khwārazm, or Abu Ja'far Mohammed ben Musa, explained the system in Arabic, and that early in the 13th century, his work on algebra was translated into Latin (and called Algorithm or Algoritmi, a paraphrase of his name), and thereafter became the primary source of our knowledge of the use of Arabic N. Whether the Greeks arrived at the decimal system and the use of position and the zero the most convenient mode koning, independently of t reckoning, Oriental nations, is apparently un-known. Certainly it seems that the value of position might soon have been suggested to them by the dash which, as shown above, was written on the left of a sign for thousands; at all events it is possible that from this use of the dash or stroke the Greeks began to associate high numbers with position to the left. If then, e.g. 7000+800+40+2 were represented by ζ , ω , μ , and β respectively, it would be a natural step to eliminate the dash and run the four symbols together thus $\zeta_{\omega\mu\beta}$ with a line or vinculum over the top to differentiate from a mere word. The forms of our present N., 1, 2, 3, etc., and the zero are also borrowed directly from the Indo-Arabic system, though modified to some extent. The Eastern Arabic used a vertical stroke for 1, but as the ancient Egyptians, the Syrians, the Palmyrians, the Phœnicians, the Palmyrians, the and even the Romans, all adopted the same symbol, it was probably common to all ancient systems of notations based on repetitions of a single unit. Our 2, 3, 6, 7, 9, 0 are all to be found in the Ghobar MSS, almost in their integrity, while a symbol not dissimilar to our 4 is to be seen in Indian Cave inscriptions (Burnell's South Palæography). Curiously Indian enough there is nothing like our 5 in the various ancient Indo-Arabic N., their signs for that number being far more like our 4. It remains to notice in some detail

the Roman N., which in their origin fall into the second of the original modes of constructing systems, i.e. by repetition of a single unit. The system was not alphabetical, despite the fact that C (100) and M (1000) are respectively the initial letters of centum and mille, and according to the best authorities (e.g. Zangemeister) it was by a merely natural process that these symbols took the form of the letters that they happened most closely to resemble. N. were distinguished from letters by being written between dots, co. 'XV', while units with horizontal strokes above were used to indicate thousands as an to small pieces of money. They occur alternative to the cumbersome mode principally in the Eocene, and are

of repeating M, e.g. 'III' = 3000. some MSS, are also to be found certain special signs, e.g. Q = 1000. A cross stroke traversing a numeral was sometimes used to indicate reduction by half a unit, e.g. $ii = 2\frac{1}{2}$, $\chi = 9\frac{1}{2}$, x = 191 (see Thompson, Greek and Latin Palaography). The vitality of the Roman system is astonishing; it was used throughout the middle ages, holding its own against the Indo-Arabic N., being even preferred for the calculation of money accounts, and, of course, it is still in use at the present day, though apparently con-fined to such purposes as the number-ing of chapters in a book, and the chaptering of private statutes to differentiate them from public acts. For the Exyntian N., see under For the Egyptian N., see under

HIEROGLYPHICS. Bibliography.—Friedlein, Die Zahlzeichen und das elementare Rechnen Griechen und Römer, der 1869: Thompson, Greek and Latin Palco-graphy, 1903; Zangemeister, Entstehung der römischen Zahlzeichen,' in Sitzb. der k. Preussischen Akademie, 1887; Woepcke, Sur l'introduction de l'arithmétique Indien en occident. 1859; Burnell, Elements of South

Indian Palæography, 1874.

Numerator is that part of a fraction Numerator is that part of a fraction which states how many parts of the whole are taken, the whole being divided up into the number of parts shown by the denominator. Thus a is a fraction in which the whole is divided into three parts and two are taken, two being called the N.

Numerianus, Marcus Aurelius, a Roman emperor, was the son of the

Roman emperor, was the son of the Emperor Carus, whom he accompanied on his expedition against the Persians. Carus was assassinated in 283 A.D., and N. was elected emperor by the soldiers, but was himself assassinated eight months later, whilst on his way back to Rome. Numidia (Gk. Nomadia, the land

of Nomads), the name given by the Romans to a part of the N. coast of Africa, corresponding to some extent with the modern Algiers. It was bounded on the W. by the R. Mulucha (now Moluya), which separated it from Mauritania; on the E. by the R. Tusca (now Wadi-el-Berber), which separated it from the territory of Carthage; on the S. it reached to the chains of Mt. Atlas. The inhabitants of N., as of Mauritania, be-longed to the race from which the modern Berber are descended.

Numismatics. see COINS AND Medats.

Nummulites, or Money Fossils, a genus of Foraminifera, so called from the resemblance of the fossilised shells

If heated over a spirit lamp and then dropped into water they split transversely, and display numerous spiral coils which are divided into hundreds of tiny chambers. The side walls of the chambers are usually arranged in such relation to one another that they give the appearance of a series of radii from the centre of the shell. The shells vary in size from 1 to 2 in. in diameter.

Nummulitic Limestone, an Eccene formation, almost entirely composed of nummalites. It is often several thousand feet thick, and is widely spread over many parts of Central Europe, Asia, North Africa, and America. It

attains an altitude of over 16,000 ft. in W. Tibet, and the Pyramids of Egypt are built entirely of it. Nun (Lat. nonna), a woman who has consecrated herself to God by the threefold vow of poverty, chastity, and obedience and who has also bound herself to live in a convent a certain rule. From the beginning of the Christian Church the existence of women devoted to virginity and religious offices may be recognised, and it is probable that they early joined together in com-munities. Convents are normally under the authority of the bishop of the diocese in which they are situated, though certain ones are responsible only to the Pone. All nuns bound by solemn vows are under the obligation of repeating the divine office in choir. The superiors are elected by the votes of the nuns, sometimes for life, but more usually for a fixed period.

Nunc Dimittis, or The Song of Simeon, a canticle which forms part of the office of compline in the Roman, monastic, and most of the mediæval breviaries. It also appears in the order of evening prayer, where it is placed after the second lesson. The canticle is taken from Luke ii. 29-32.

Nuncio, see LEGATE.

Nuncomar, see Hastings, Warren. Nuncupative Will, a verbal will or oral declaration of one's testamentary intentions before witnesses. In general, a will, both in English and Scots law, is totally void unless made in writing. Soldiers or sailors over 14 years of age can dispose of their goods and chattels by a N. W., but since the Navy and Marines (Wills) Act, 1865, a N. W. made by a man in His Majesty's naval or marine forces will not be effectual so as to dispose of his wage or other money due to him by the Admiralty, though apparently the Admiralty have a discretion to pay the wages to the claimant under an It is a cathedral city. Pop. 7000. oral will. It is to be noted that the term N. W. is often applied to an in-Nigeria, Africa. It is bounded by

abundant in the Bracklesham beds, formal written will made by a soldier on active service, such wills generally being valid if sufficiently proved. It is doubtful how far the N.W. of a civilian is valid, but in all cases where effect has been given to such a will, it was satisfactorily proved that the testator at the time of making it was in catremis. (See Jarman On Wills.) In Scots law, a N. legacy is effectual to the extent of £100 Scots (£3 6s. 3d.), but the verbal nomination of an executor is useless. See also Donatio MORTIS CAUSA.

> Nundydroog, a fortified hill situated in Mysore. India, 30 m. N.E. of Ban-galore. This fortress, which stands over 1000 ft. above sea-level, was stormed by the British in 1791.

> Nuneaton, a par. and market tn. of Warwickshire, England, 81 m. N.E. of Coventry. Coal is worked in the vicinity, and there are large ironworks, and manufactures of woven worsted articles, elastic, cotton, hats, and ribbon. A nunnery, founded in 1150, gave the town its name, and on its ruins the church of

> St. Mary was built in 1877. Pop. (1911) 37,083.
> Nuñez (or Nonius), Fernan (c. 1470-1553), a Spanish writer and teacher. was born in Valladolid. He was a professor of Greek at Alcala and Salamanca universities. He published various editions of the classics and helped to compile the Latin version

of the Septuagint.

Nuñez de Arce, Gaspar (1834-1903), a Spanish poet, was a native of Valladolid. He excels especially as a writer of lyric poetry, and has a considerable reputation as a dramatist. Among his poems are: Gritos del Combate (1875), El Vertigo (1879), La Vision de Fray Martin (1880), La Pesca (1884), while his dramatic works include: Como se Empeñe un Marido (1860), El Haz de Leña (1882). Sce M. Menendez y Pelayo, Don Gospar Nuñez de Arce (1882).

Nuñez, Rafael (1825-94), a president of Colombia, was born at Cartagena. In 1851 he was elected member In 1851 no was elected member of congress, and was on two occasions minister of finance. He afterwards became consul at Havre and Liverpool, and after his return to New York was elected president in 1880. He was re-elected to this office, and in 1886 was invested with the newers of a president for significant for sig the powers of a president for six vears. He was elected president for the fourth time in 1892. Among his literary work may be mentioned his directorship of El Continental.

Nuoro, a tn. in the prov. of Sassari, Sardinia, 78 m. N.N.E. of Cagliari. It is a cathedral city. Pop. 7000. Nupe, a native kingdom of N.

the R. Niger, and its cap. is Bida. shrine consisting of a bronze sarco-Area, 6400 sq. m. Pop. 153,000.

Nuphar, a genus of aquatic plants (order Nymphaceæ), of which two are N. luleum, the common vellow water-lily or brandy-bottle, is common in lakes and rivers. It bears large, yellow, strongly-scented globose flowers and both submerged and floating leaves. A drink is prepared by the Turks from the flowers. pumilum, a much smaller plant, which

occurs in small lakes in Scotland. Nuraghe, Nurragghi, Nurags, are the round towers of Sardinia, of which there are about three thousand. and which are of very great antiquity. These towers, which resemble the brochs of Scotland, and the talyots of Minorca, are built of various stones, such as granite, basalt, and lime-stone, and consist of two or three stories, reached by means of a spiral staircase. Their original purpose is not known, nor is there any existing information as to their builders. James Fergusson, Rude Stone Monu-ments in all Countries; their Age and Uses, 1872, and Sir Robert Lambert Playfair, Handbook to the Mediter-Playfair, Hanaooon Playfair, Hanaooon 1890.

Malek-al-(1117-1173) (surnamed (the martyr) by Mohammedan historians), a sultan of Syria, born at Damascus. He succeeded his father as emir of Aleppo in 1145, and proceeded to try to expel the Christians from Palestine. The Christian tians from Palestine. defeat at Edessa led to the second Crusade, but by 1151 every Christian stronghold in Palestine was in his hands. He was defeated by Baldwin, King of Jerusalem, and narrowly escaped imprisonment; later, how-ever, he overthrew the Christian princes of Tripolis and Antioch. In 1169 he over-ran Egypt, and was created Sultan of Syria and Egypt by

the calif of Bagdad, Nuremberg (Ger. Nürnberg), a city of Bavaria in the prov. of Middle Franconia, 100 m. N.W. of Munich. It is the commercial capital of Bav-aria, and lies in a sandy but produc-Formerly among the tive plain.

N. side of the town, dates from about the beginning of the 11th cendates from tury, and was a favourite residence of the German emperors in the later middle ages. The city also contains several the best

the mast

phagus and canopy; and the church of Our Lady, which contains the Tucherschealtar. Among other public buildings are the Renaissance town hall, the Germanic national museum, which includes a picture gallery containing works by Holbein, Dürer, and others, and the municipal library with about 80,000 volumes, and 2,000 valuable manuscripts. The city is an important commercial centre, and is the chief market in Europe for hops. The principal manufs. are fancy articles in metal, carved wood, and ivory, 'Dutch' toys and clocks, and lead pencils. N. was the first of the imperial towns to embrace Protestantism. Pop. 332.800. See Cecil Headlam's Nuremberg.

Nurpur. a tn. in the Punjab, India, noted for its manuf. of shawls and woollen goods. Pop. 10,000.

Nürschan, a tn. of Bohemia, Austria, 6 m. S.W. of Pilsen. The chief industries are coal mining and the manuf. of glass. Pop. 5671.

manuf. of glass. Pop. 5671. Nursery Rhymes, jingling rhymes invented for the amusement of children, or perhaps survivals of ancient folklore, invocations or incantations preserved from remote antiquity. Many of them are without doubt survivals from old English May-day celebrations, ring-songs and dances which were once practised by grown-up people. The jingling metre and doggerel rhymes, in which the sense is often sacrificed to the attempted rhyme, have been handed down orally from one generation of children to another. The verses generally consist of a rhyming couplet or a quatrain in which the second and fourth lines rhyme, and there is frequently a refrain accompanying the quaint old airs which have been handed down as their setting. The N. R. proper, embodying a tale set forth simply, and marked by either wit or pathos, is almost peculiar to the English tongue, the equivalents in the Latin or Teutonic tongues are more ornate and fantastical. The 'counting-out 'rhymes, in which one word is dropped for each player and the one on whom the last word falls drops out from the ring, form a most interesting branch of folklore, and are doubtedly of great antiquity. doubtedly of great antiquity. See Ker's Archaeology of our Nursery Rhymes (new ed.,) 1837; Halliwell's Nursery Rhymes of England (6th ed.), 1860; Rolland's Rimes et Jeux de l'Enfance, 1883; Novell's Games and Sonys of American Children, 1881; and Louey Chisholm's Collection of Nursery Rhymes, 1911; also Nursery Rhymes (Everyman's Library). Nurses, Royal British Association

Krafft; St. Sebald, with its celebrated of, was organised in 1887, with the

fourfold object of improving the status and St. Thomas's. Between 1842 and of the nursing profession, granting a diploma after examination, establishing a register of trained nurses, and carrying out benevolent schemes the Crimean War gave a new impetus for the advantage of members. administers the Helena Benevolent Fund, with invested property of £1250, for the relief of members in The association is controlled by a council and executive committee of nurses and doctors. Its official organ is The Nurses' Journal (10, Orchard Street, London, W.).

Nursing. Sick N. has evolved into a highly skilled profession since the Crimean War. It has a long history. Previous to the 4th century the sick poor were housed in the Grecian, Roman, and Egyptian temples, and in ancient history names like those of Fabiola and the Empress Flocilla prove that even then women of substance could be found who would devote their time and money to the care of the sick. At the same time there were in existence hospitals, or at least some kind of dispensary system, for the sick poor in Egypt, India, Greece, and Rome. Essentially, however, organised N. as a branch of medical treatment may be said to have taken its rise amongst the deacons of the early Christian Church. deacons of the early constian Church.

From the 4th century on, the development of N. was rapid, and the institutions were managed by the clergy, and the nurses recruited from the male and female monastic orders.

Throughout the Dark and Middle Ages this system obtained. The oldest institutions in England are St. Thomas's and St. Bartholomew's, and their names indicate their religious connection. The Reformation caused a secular system to be introduced. Some measure of systematic N. was not attempted until the middle of the 19th century, and until then all the skill that nurses possessed was acquired in the course of their work in the wards. Germany saw the birth of the new system at the foundation of the institute by Pastor Fliedner in 1836 at Kaiserwerth; and it was at this place that Florence Nightingale was trained. Male nurses had been trained since 1799 at various institutions in Prussie, but the employment of male nurses is almost entirely German, and is apparently dying out even there. In England the only training schools for male nurses are those in connection with the army and navy. Pastor Fliedner's institute was soon followed by the formation of societies in Phila-

the Crimean War gave a new impetus to the profession, and raised it considerably in the public esteem. Florence Nightingale with a band of trained nurses undertook the administration of the hospitals, and reformed them as well as nursed the sick. The popular mind, however, was chiefly attracted by the sentimental aspect of it, and as a consequence N. has come to be regarded in a much higher light. As a result, too, in 1860, the Nightingale Fund Training School for Nurses was founded at St. Thomas's Hospital, with public subscriptions given in recognition of her great work; and all over the Continent similar schools were soon established. During recent years the influence of hygiene and medical science generally has made it essential that nurses should be highly skilled and trained.

To enter the N. profession the can-didates must usually be between the ages of 23 and 35, although sometimes the age is as low as 21; they must be physically and mentally strong; and have to serve from one to three months on trial before commencing their three years of training. It is not necessary to pay a premium, and wages (usually £10 the first year, £15 the second, and £20 the third) are paid. Most of the larger hospitals take paying probationers, who in re-turn for a fixed premium receive shorter periods of instruction. The duties are in both cases the sameexcept that paying probationers are exempt from night duty and from the heavier portions of ward cleaningand are not confined to waiting on the sick. The probationer has to wait on the staff nurse or sister as well as on patients when required; attend lectures on medical and surgical subjects; aid in the dusting of wards; the washing of patients; and the cleaning of utensils and instruments. At the close of the training period a certifi-cate is given, and those who qualify may serve as staff nurses, or leave to take up special N Private N. staffs, recruited from the staff nurses, are usually attached to hospitals, and nurses for private these supply In special hospitals the patients. training may only take one or two

years. Among the several institutions or societies which nurses may join, the most noteworthy is the Queen Vicdelphia (1838) and in London (1840). Imost noteworthy is the Queen Vio-The latter was founded by Mrs. Fry, toria's Jubilee Institute for Nurses. and the nurses were trained at Guy's: Toria's was founded with the surplus

years, while in most of the best train-

ing schools the period may be four

(£70,000) of the Women's Jubilee Offering, which gives an income of about £2000 per annum. Four centres at London, Edinburgh, Dublin, and Cardiff, are maintained with this, at which nurses are trained for their special work, while in addition to these about five hundred branches are scattered over the country. Nurses who have thus been trained are entitled to be known as Queen's nurses, and to wear a special badge. training at an approved hospital and serving a trial of one month, nurses who wish to join this association, enter one of the centres, and undergo six months' training in district N., and if country nurses, three months' training in midwifery. Nurses in private institutions either receive a fixed salary plus a bonus, according to length of service, or a percentage of their earnings, or they receive all their earnings minus a percentage deducted for the upkeep of the home. There is a marked difference usually between the salaries paid to nurses and the fees charged for their services, but arguments can be advanced to explain the discrepancy. The largest benefit role that the targets better to society maintained by, and for, the profession is the Royal National Pension Fund; and usually private homes either provide pensions or assist their staff to join this society. For special training, e.g. fever, insanity, massage, monthly nursing, midwifery, and children, nurses usually enter one or other of the numerous special hospitals, and according as the special training is more or less difficult than ordinary training, so the period of training is either longer or shorter.

The work of N. should not be taken up lightly, and demands physical health and strength, good temper, self- bir

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advocate the staffing of male wards with male nurses. Many of the duties in such wards are essentially men's. There is no doubt, for instance, that the lifting of heavy patients is a task beyond women, and they should not be asked to do it. Again, a sensitive man finds it irksome and disagreeable to be attended by women for various necessary offices, and because of this will often endeavour to do without such assistance, and so prejudice his chances of recovery. For further in-formation see Burdett's Hospitals and Asylums of the World; The Nursing

Eva C. Lückes, Lectures on General Nursing, and Hospital Sisters and their Duties; Florence Nightingale's Notes on Nursing; Burdett, How to become a Nurse; Drinkwater, Sick Nursing; Honor Morten, A Complete System of Nursing.

Nusle, a tn. in the crown land of Bohemia, Austria, a S.E. suburb of Prague. Pop. (including that of Pankratz, the vil.adjoining) about 31,000.

Nut, strictly a fruit, with a woody pericarp which decays to set free the seed or seeds (c.g. hazel, beech, acorn, and Spanish chestnut). The fruit of the horse chestnut is properly described as a berry-like capsule. Most of them are rich in oils and starches. and their value as food has received much attention in recent Many nutritious articles of diet, including butter substitutes, are prepared from them. The most important are the cocoa-nut, brazil, walnut, chestnut, hazel, cashew, pea-nuts.

Nutation (Lat. nutatio, nodding), a movement of the earth's axis, causing an apparent advance and recess of the stars to the pole, and an oscillation of the equinoctial points regularly in-creasing and decreasing the longitudes and right ascensions of the stars. is due to the varying actions of the moon and sun on the equatorial protuberance of the earth, which cause the precessional circle to be wavy. There are strictly three Ns.: Lunar nutation, due to the revolution of the moon's nodes, with a period of 181 years, amount 9.2"; Monthly nutation, due to changes of moon's declination, too small for measurement: Solar nutation, due to the changing declination of the sun, period one year, amount 1.2".

s about the size of a jackdaw, having brown back, with a long white spot on each tail, dark brown head, white tipped outer tail-feathers, black feet, and a black bill. In flight and habits it resembles the jay. It feeds on fruit, a variety of insects, and also the eggs and young of small birds. The nest is a big clumsy structure, and in it about three eggs are laid, which are very light green, spotted with pale brown.

Nut-Galls, see Gall-Fliks. Nuthatch, or Silla Europæa, a passerine bird fairly common in the S. half of England and in Europe. plumage is bluish-grey above, and the under-surface is light reddish-brown or buff; the throat is white, and the tail-feathers have white tips. The billispowerful and wedge-shaped, and is used to force away the bark in the search for insects, as well as to break Profession (annual): Hampton's Nurs-ing; Anderson's Medical Nursing; nuts. It is a skilful climber, ablo to de601

scend a tree head downwards. As in divide the castern. There are British other tree-climbing birds its first toe steamers and gunboats on the lake, is much developed. The nest is made and a German gunboat. commonly in a hole in a tree, and the mouth of it is plastered up with mud, except for a hole just big enough to give the bird admittance. In it are laid about seven white eggs, spotted

laid about seven.
with reddish-brown.
in. of Essex co., New
outlery, Nutley, a tn. of Essex co., New Jersey, U.S.A. Plush, paper, cutlery, and leather goods are manufactured. Pop. (1910) 6009.

Nutmeg, the kernel of the fruit of several species of Myristicae, of the natural order of Myristicaece, tropi-cal trees or shrubs, natives of Asia, Madagascar, and America. The fleshy part of the fruit is rather hard, and is often eaten as a sweetmeat, resembling candied fruit; the nut is enveloped in a curious yellowish-red aril, the mace. Ns. yield a peculiar yellow fat, called oil of mace, and by distillation colourless ац almost essential oil.

Nutrition, see BLOOD, CIRCULATION, DIET, DIGESTION, ABSORPTION, RE-SPIRATION, SECRETION, and EXCRE-

TION.

Nux Vomica, the seeds of a small evergreen tree, Struchnos Nux Vomica (order Loganacee). The seeds are circular and disc-like, about the size of a halfpenny, and covered with soft fawn hairs. The tincture of the British Pharmacopæia is made by treating the seeds when finely powdered with rectified spirit. occi as in The the

rind 3 pulp rind white and gelatinous, and a number of seeds are produced in each fruit. They have been used to produce a brown dye. The existence in them of strychnine and brucine was not discovered until the early part of the

19th century.

Nyam-Nyams, see NIAM-NIAM.

Nyangwe, a tn. and Arab trading station, in Belgian Congo, on the r. b. of the Congo above the Stanley Falis. Livingstone first visited it in 1871.

Nyanza, ALBERT Nyanza, seeNYANZA, and VICTORIA The two lakes formerly EDWARD known as Albert Edward Nyanza are now known as Lake Albert and Lake

George.

Nyasa, or Nyanja, a large lake in S.E. Africa, discovered by Living-stone in 1859. Its greatest length is 350 m., and its breadth from 15 to 45 m.; with a total area of 14,000 45 m.; with a total area of 14,000 sq. m. It lies 1650 ft. above sea-level. The lake has abundance of fish, and is drained by the Shire into the Zambesi. Great Britain holds the western shores: Germany

Nyasaland: 1. German, that part of German E. Africa which touches the N. and N.E. shores of Lake Nyasa. It consists of a fertile plain to the E. of the Livingstone Mts. and the volcanic peaks to the N. which culminate in Mt. Rungwe (10,400 ft.). Langen-burg is the chief settlement. A rail-way from the shore of Lake Nyasa is designed to connect it with Dar-es-Salaam. 2. Portuguese, that part of Portuguese E. Africa which includes the northern district of Mozambique, and extends from the eastern and south-eastern shore of Lake Nyasa, to the Indian Ocean. It is a rich and as yet undeveloped mineral area. The surface is largely open veld traversed by fertile valleys. A railway is pro-jected from Porto Amelia on Pemba Bay, the chief trading outlet of the district, to the lake.

Nyasaland Protectorate, see BRITISH

CENTRAL AFRICA.

Nyblæus, Johan Axel (b. 1821), a Swedish philosopher, born at Stockholm. In 1856 he was appointed professor of philosophy at the University of Lund. His chief works are: Den filosofiska forskningen i Sverige från slutet af 18. århundradet, 1873-97, his masterpiece; Om statens straffrät, 1879, and Trenne filosofiska uppsatser, 1878.

Nyborg, a scaport on the E. coast of Fünen Is., Denmark, in the co. of Svendborg, 17 m. E.S.E. of Odense. The fortifications built by Christian IV. were destroyed in 1869.

Nyctaginaceæ, a natural order of herbaceous plants, shrubs, and trees, found chiefly in the tropical regions. Among the best-known genera are Bougainvillea and Mirabilis.

Nyctalopia, a defect in the vision of people who can see distinctly in a faint light only, and not in bright daylight. The term is sometimes applied to the opposite defect of vision, by which some people are unable to see distinctly save in light of great intensity.

Nyctanthes Arbor-Tristis, or Tree of Sadness, a small Indian tree (order Oleaceæ) bearing a number of fragrant, white flowers which open and fall in the night. The tree is cultivated in India and is occasionally grown in stovchouses in Britain.

Nycteriba, or Bat Lice, a genus of wingless, bloodsucking flies parasitic

They somewhat resemble flattened spiders, but are less than a quarter of an inch in length. are a pale ochreous or leather colour, the legs are long, and the proboscis and Portugal filiform. The eggs hatch within the

mother's body where the larval state is entirely passed.

Nye, Edgar Wilson, better known as Bill Nye (1850-96), an American humorist, born at Shirley, Maine. In 1886 he settled in New York and won great popularity as a humorist and great popularity as a humorist and punster. He published: Bill Nye and the Boomerang, 1881; Forty Liars, 1883; Baled Hay, 1884; Bill Nye's Blossom Rock, 1885; Remarks, 1886; Chestnuts, 1885; and with J. W. Riley, Railroad Guide, 1888; Fun, Wit, and Humor, 1889; Comic History of the United States, 1894; Comic History of England, 1896.

Nye, Philip (c. 1596-1672), an Eng-

Nye, Philip (c. 1596-1672), an Engtheologian and independent divine. His nonconformity led to his giving up his curacy and retiring to Holland (1633). He was one of the Westminster Assembly's Commissioners to Scotland (1643); he took part in the Savoy Conference (1658), and strongly opposed the re-imposition of the Covenant (1660). At the

Restoration he fell into disgrace. Nyerup, Rasmus (1759 - 1829), a Danish author born at Nyerup in Fünen Danmark Var Fünen, Denmark. He was a noted scholar and was appointed professor of literary history at the University intended to of Copenhagen (1796). He published Bidrag til den danske Digtekonsts sunk tubs. Historie, 1800-8, which he carried further in Udsigt over den danske Digtekonst under Kong Frederik V., rank, always 1810-1910 Bidrag til en Udsigt over mak always stident of the control of t den danske Diglekonst under Kong Christian VII.

Nyezhin, a tn. in the gov. of Chernigov, Russia, 62 m. S.E. of Chernigov. Tobacco is manufactured. Pop. Pop.

47,000.

Nykjöbing, a seaport of Denmark on the W. coast of Falster Island, 94 m. S.S.W. of Copenhagen. It is the see of the bishopric of Laaland-Falster. Pop. 7700.

Nyköping, a seaport and the cap. of Södermanlän, Sweden, at the head of the Byfjord, on the Baltic, 98 m. S.W. of Stockholm. It has a good harbour, and exports iron and zinc ore, timber,

wood-pulp, and oats. Pop. 9500. Switzerland, on the Nyland, a prov. of Finland on the Lake of Geneva. N. coast of the Gulf of Finland. Cap. Helsingfors. The soil is marshy but fertile in some districts. Area, 4580

sq. m. Pop. 280,000.

Nylghau, Nilgai, or Blue Ox, a large antelope occurring in Central India. The male is slate or dark grey, darkening with age, the legs are black; the female is fawn or reddish-brown. On the throat is a white patch and below it hangs a tuft of dark hair. The male is over 4 ft. at the shoulders, but the back slopes down as the hind legs are shorter than the fore legs. The female is about a third smaller, and lacks horns which in the male are black, short, and erect. Thoughin the jungle it is a wary animal, in the more cultivated districts it is very tame. Natives regard it is sacred, but its skin makes valuable leather.

Nymphæa, a genus of beautiful aquatic tuberous-rooted perennials (order Nymphæaceæ). N. alba, the (order Nymphæaceæ). white water lily, is fairly common in British lakes, broads, and slow rivers, and bears entire floating leaves and large flowers. From this and other species a large number of hybrids have been raised, and the range of colour is very wide. They are introduced into ornamental water by placing the tubers in willow hampers containing a strong loam mixed with cow manure, and sinking them where they are intended to grow. Some of the smaller varieties are successfully grown in

Nymphs, in Greek mythology, a class of female divinities of inferior rank, always depicted as beautiful maidens of eternal youth, connected with the forces of nature, and gener-ally with some divinity of higher rank, Aremis, Apollo, Pan, and Hermes. They were divided into the Oceanides, N. of the open sea, and Noreides, N. of the inland seas; Naiades, who presided over rivers, brooks, and lakes; Oreades, N. of the mountains and grottos, among whom was Echo; and Dryades or Hamadryades, who dwelt in the Sec Krause, Die forests and trees. Musen, Grazien, Horen und Nymphen, 1871: and F. G. Ballentine, Some Phases of the Cult of the Nymphes, 1901.

Nyon, a tn. in the canton of Yaud, Switzerland, on the N.W. shore of the Lake of Geneva. Pop. 5084.

Nystad, a scaport of Finland, on the Gulf of Bothnia. 36 m. N.W. of Aba

Gulf of Bothnia, 36 m. N.W. of Aba. A treaty between Russia and Sweden was signed here in 1721. Pop. 1000.

and a third sound as in none, which links it with u. Indeed, Anglo-Saxon not pay to cultivate in most parts as besides us, and ritain, though in combining the

as besides us, and often transcribed i by o. There is no c

by σ . There is no σ rivalled for certain purposes. It than hieroglyphics, σ is a step Semites called for σ the symbol was intended to be ideographic. this day oak-leaves or oak-apples are The Hebrew σ , however, was not a sometimes worn in memory of the rowel, but 'a voiced glottal stop,' king, because on Sept. 6, 1651, he not unlike the h in huge. In the primitive Greek alphabet the letter was diving from his pursuers. Used for σ , out, and σ . Later another symbol was devised for σ , namely σ , 1903), an English organist and comcalled omega in Greek remainars to poser. born at Ealing Middlesex:

shire, England, 31 m. S.E. of Leices- honour of Queen Victoria. ter, with manufs, of boots and shoes. by E. M. Oakeley (1904).

Pop. (1911) 1800.

Oahu, see Hawaiian Islands.

of Oajaca, or Oaxaca, a state Mexico, at the S. end of the Isthmus of Tehuantepec. It is mountainous,

1,041,035; of town 37,469.

Oak. The British O., with its vide leaves, usually along the midrib. A distribution throughout great parts of Europe and Asia, is the best known and most important of its genus (Quercus). Three well-marked varieties occur. Pedunculata is the commonest O. over the greater part of England, Ireland, and the Scottish Lowlands; its acorns have long stalks are stalkless or nearly are manufs. of hoots and shoes. Pop. so. The acorns of Sessilifora are stalk. [1911] 3668. so. The acorns of Sessiliflora are stalk- (1911) 3668.

O, the fifteenth letter of the English alphabet, is the only vowel in stalk. Intermedia, the Durmast, bears our language which really corresponds in sound with the o of German, acorn-stalks, while the undersides of French, and other European lant the leaves are downy. These two are guages. Besides the name-sound as in cone—a sound which, by the way, is represented by a variety of spell-other varieties occur but they are ings: though, yeoman, roe, hautboy, etc., it has the short sound as in lot, and a third sound as in none, which on account of its slow growth, does on account of its slow growth, does

qualities of other timbers it rivalled for certain purposes.

called omega in Greek grammars to poser, born at Ealing, Middlesex; caned omega in Greek grammars to poser, born at Ealing, Middlesex; distinguish it from ŏ, or omicron. was professor of music at Edinburgh Yet omicron and omega were not true (1865-91), and among his compopairs, for o + o contracted to ou (cf. stitions are orchestral and choral δουλό-ομεν; contr. form δουλούμεν), works, anthems, student's songs, and o was really a close, whilst ω was sonata, church music, the Cantata an open, sound.

Oadby, a par, and vil. of Leicester-burgers, A Golden Reign, and Dawn and Eventide (1837-1901) in Single England, 31 m. S.E. of Leicester-burgers of Ouen Victoria.

> Oakengates, a market tn. of Shropshire, England, 12 m. E. of Shrews-bury, Pop. (1911) 11,744.

Oak Fern, see POLYPODIUM. Oak-galls and Oak-apples.

broken in the interior, and tropical on plant is more subject to the attacks the coast. Area 35,380 sq. m. The of gall-producing insects than the oak, state is well watered, and mining and and the abnormal production of plant agriculture are carried on. Indian tissue takes many forms, which are corn, coffee, sugar, cacao, wheat, remarkably consistent in their variety. fruits, tobacco, rubber, and indigo The beautiful gall-wasp (Cynips are produced. The cap, is Oajaca, in kollari), for instance, invariably the central part of the state, on the causes the marble galls on young Rio Verde, 288 m. S.S.E. of Mexico. oaks, by laying its eggs which hatch It is the centre of a cochineal trade, into the fat grubs found inside the une old cathedral. Pop. of state causes the formation of small cherry-1,041,035; of town 37,469.

cap. of Alameda, on the E. coast of San Francisco Bay, 6 m. from San Shipbuilding, fruit-canning, and tanning are the chief industries. Manufs. include cotton and woollen goods, shoes, pottery, etc. Pop. (1910) 150,174.

Oak Park, a vil. of Illinois, U.S.A., in Cook co., 9 m. N.W. of Chicago, of which it is a residential suburb. Pop.

(1910) 19,444.

Oaks, The, see Horse-Racing and his

RACE MEETINGS.

Oakum, a substance obtained from old ropes by means of untwisting, loosening, and picking out the yarm-thus, hemp-fibre. It is chiefly employed to stop or prevent leaks, caulk the seams of ships, etc. Originally, the picking of O. was one of the chief employments of convicts, but nowadays it is falling into disuse.

Oakworth, a par, and tn. of W. Riding, Yorkshire, England, on the Worth, 2½ m. S. of Keighley. It manufs, worsted and cotton goods.

Pop. (1911) 4279.

Oamaru, a municipal bor, and seaport of New Zealand, South Is., in the co. of Waitaki, on the E. coast, 50 m. S.W. of Timaru. It possesses one of the safest harbours in the island, and has an extensive export trade in frozen meat and agricultural pro-The neighbourhood is noted for the breeding of livestock, and also for its grain crops. Pop. 7100.

O Arad, see ARAD.

Oases (sing. Oasis), isolated fertile regions within deserts, due to the This may be due presence of water. to springs, pools, or damp hollows in water-courses usually dry, watercourses from beyond the desert not They are generally yet dried up. arranged along the foot of a range of hills or mountains, or an outcrop of rock. Some are of large area, and form the homes of tribes. Many are being created by means of artesian wells. Oates, Titus (1649-1705), an Eng-lish conspirator, born at Oakham.

Having taken holy orders, he held several curacies and a naval chaplaincy from which he was invariably dismissed for vicious conduct. same thing happened also when he entered the Romish Church. It was at this juncture (1678) that he forged his preposterous story of a Popish plot to murder the king, burn London, and slaughter the Protestants. perjured himself by making an ailldavit before Godfrey, the magistrate, and in spite of the palpable inconsistencies in his evidence succeeded in creating a panic and in securing for himself a pension of £600, and a suite of rooms in Whitehall. The Duke of

Oakland, a city of California, U.S.A. | his slanders. In 1685 he was found guilty of perjury and condemned to life-long imprisonment with floggings. He regained his liberty and pension in 1688.

An O. may be defined as a solemn declaration to a superior or divine being, or in the name of something held sacred, by which the declarant undertakes either to speak the truth or promises to do something in the future, on pain of calling down on head divine or preternatural wrath. Os. of the former or assertory kind may be exemplified by the affldavit and the O. of a witness in a court of law; the latter or promissory kind by the O. of allegiance, by taking which a naturalised foreigner becomes a British subject. By the English law of evidence (q.v.) all oral testimony in any proceeding must be given upon O., except (1) under the Criminal Law Amendment Act, 1885, in the case of a child of tender years where, in the opinion of the court, the witness does not understand the nature of an O., and generally, in prosecutions under the various Acts for the pre-vention of cruelty to children, un-sworn evidence of children may be accepted; (2) under the Oaths Act, 1888, every person who objects to being sworn on the ground either that he has no religious belief or that the taking of an O. is contrary to his religious belief, may make a solemn affirmation in this form: I. A. B., do solemnly, sincerely, and truly declare and affirm, etc., omitting words of imprecation or calling to witness. The passing of the Oaths Act, 1888, was the result of the agitation of the celebrated Bradlaugh, member for Northampton, who, having objected to take an O., was allowed to affirm, subject to the risk of an action by a common informer. A successful action for penalties followed, but Bradlaugh again sat in the House, administered the O. to himself, and voted at a division. Another action at the instance of the Attorney-General followed, but Bradlaugh subsequently gained the day on being again returned to parliament, the second motion that he should not be permitted to take the O. not being carried. The Act of 1888 effected the removal of the last of the tests for members of parliament, the others being the O. of supremacy, the O. of abjuration, the O. of alleglance, and the declaration against transub-stantiation. There were prior to 1888 other Acts making provision for the taking of Os. by Quakers, Roman Catholies, and Jews, but the Act of 1888 abolishes the necessity for any religious beliefs in taking an O., York and the queen were victims of whether by a member of parliament

or any one else. At the present day lover it. the great majority of English witnesses in the law courts still 'swear by Almighty God,' and kiss, or, since the Oaths Act, 1909, simply hold, a copy of the N.T. Jews swear on the Pentateuch, and keep their heads covered: Scots witnesses affirm with the hand uplifted, while Chinese witnesses require a saucer to be broken before their consciences will permit them to sneak the truth. Whether the O. has any very deterrent effect on mendacity is a matter of opinion, but there is probably no greater injustice in the assumption that perjury is committed in practically every action tried, than in Mr. Justice Darling's cynical remark: 'The truth will out, even in an affidavit."

Oats as a food are the richest of the cereals, containing the highest proportions of proteins and fat, and are valuable for all classes of stock, while their value for human food is gaining increased recognition. The origin of the cultivated species is unknown none of them occurring in a truly wild state. Two main races are recognised, viz. common O. (Avena sativa) with open spreading panicles, and Tartarian O. (A. orientalis) with contracted one-sided panicles. The white and black varieties of the latter are more productive in warm climates, and are favoured for their tall stiff straw. The varieties of the common O. differ chiefly in the colour and thickness of the husk, the shape of the grain, the period of ripening, the length of the straw, and the tendency to shed the grain when ripe. Other species are weeds. The bristle-pointed O. (A. strigosa) and the short O. (A. brevis) are sometimes, like the common O., grown as green fodder.

Oaxaca, see Oajaca. Ob, or Obi (Ostiak As or Yag, and Tatar Omar), a river of W. Siberia, some 2200 m. long and with a drainage area of over 1,100,000 sq. m. It rises in the gov. of Tomsk, at the confluence of the Biya and the Katun, which both rise in the Altai Mts. In the main it follows a N. or N.W. direction, and finally, after receiving the Irtysh from the left and the Tom and Tchulym from the right, reaches the Gulf of Ob, a deep

inlet of the Arctic Ocean.
Obadiah ('servant' or 'worshipper' of Jehovah), one of the twelve minor prophets. Nothing is known of his history, and the Book of O., though the shortest of the prophetic writings, is at the same time one of the most difficult and most interesting. Its twentyone verses are directed against Edom because of her behaviour to Judah in the day of the latter's calamity, when Oberalp Pass, a mountain pass in Jerusalem was captured and lots cast Switzerland over the Alps, on the

Edom shall be brought low in spite of her wisdom and rocky fortresses, by the treachery of her former allies. The book shows parallels with parts of Jeremiah too close to be due to coincidence. There are strong objections to the theory that one borrowed from the other, and it seems probable that both were indebted to an earlier prophet whose work has perished. It is probable that the book is composed of two parts, one preexilic, the other post-exilic, but the view has also been held that both portions were post-exilic. Few now consider that it is a pre-exilic whole.

Oban, a seaport of Argyllshire, Scotland, 20 m. N.W. of Inverary. The little island of Kerrera shelters the excellent harbour from the Atlantic gales, and also accounts for its The picbeing almost land-locked. turesque situation at the foot of the hills and the proximity of the ruins of Dunolly and Dunstaffnage castles have made the town a favourite centre for tourists to the west. Pop.

(1911) 6567.

Obé, Obì, Obeah, or Obia, the name given to a species of witchcraft practised amongst the negroes of W. Africa, and of the W. Indies. The apprehension of this sorcery is frequently attended with disease and death, by reason of its operation upon the superstitious fears of the negroes. See JU-JU, WITCHCRAFT, SORCERY, etc. O Becse, a vil. of Hungary, in the

prov. of Bacs-Bodrog, on the r. b. of the R. Theiss, 47 m. S.W. of Szegedin, with an important trade in fruit and

grain. Pop. 20,000.

Obeid, El (Africa), see El Obeid.

Obelisk (Gk. δβελίσκος, diminutive of δβελός, a spit), a four-sided monumental pillar with a pyramidal top. Corresponding to the Greek slelæ and Roman columns, they were placed in Roman columns, they were placed in pairs by Egyptians at the entrance of temples or before gateways. Those that remain are of great antiquity. The Romans carried off several from Egypt, two of which, originally erected by Thothmes III. at Heliopolis, were taken by Augustus to Alexandria. These are popularly known as 'Cleopatra's Needles,' one being brought to London in 1877 and the other to New York in 1879. The obelisk in Paris, one of a pair of Rameses II., which stood at Luxor, was presented by Mchemet-Ali (1837). The Egyptians dedicated obelisks to sun delties, and worshipped them. Consult Zoega, De Origine et Usu Obeliscorum, 1797; H. H. Goeringe, Egyptian Obelisks, 1882; and Parker, The Twelve Egyptian Obelisks (at Pagna) 1879

Rome), 1879. Oberalp Pass, a mountain pass in

6730 ft, and it connects Andermatt, above Goeschenen, with the valley of the Vorder Rhine to Disentis. It forms with the Furka the chief carriage route for tourists from the Simplon and Zermatt to the Engadine.

Ober-Ammergau, a vil. on the r. b. of the Ammer in Upper Bavaria, situated 44 m. S.W. of Munich. It has some 1400 inhabitants, who are engaged mostly in wood and stone carving. At this village a famous passion play is performed every ten years in fulfilment of a yow which was made in 1634 when the village was visited by a severe plague. This play now draws visitors from all parts. See Miracle Plays, Passion PLAYS.

Oberhausen: 1. A tn. of Prussia in the Rhine Province, on the Emscher, 7 m. W.N.W. of Essen. There are There are important coal mines and iron works. zinc smelting works, rolling mills, and manufs. of chemicals, glass, and porcelain. Pop. 89,897. 2. A market tn. of Bavaria, in Swabia, on the Wertach. It is a northern suburb of Augsburg.

Oberlahnstein, an old tn. of Prussia, in the prov. of Hesse-Nassau, on the Lahn and Rhine, 4 m. S.S.E. of Coblenz. Parts of the ancient walls are still standing, and there is a castle which was formerly used as the residence of the electors of Mainz. There are lead and silver mines in the vicinity. Pop. 8925.

Oberland, see Bern.

Oberleutensdorf, a tn. of Bohemia, Austria, 10 m. S.W. of Teplitz. There are manufs. of textile goods, etc., and in the vicinity are many coal mines. Pop. 10,658.

Oberlin, a tn. of Ohio, U.S.A., in Lorain co., 30 m. S.W. by W. of Cleveland. Its college was founded in 1833, and students of either sex or any nationality are admitted. (1910) 4365.

Oberlin, Jeremiah James (1735-1806), an Alsatian philologist and antiquarian, born at Strasburg. In 1770 he was appointed professor of rhetoric at the university of Strasburg, and in 1782 professor of logic and metaphysics. Ho travelled and metaphysics. Ho travelled through the different provinces of France to investigate and study antipublished remains, and auarian soveral manuals on archeology and ancient geography. His chief works are Dissertations sur les Minnesingers, Essai sur le Palois Lorrain, and Observations concernant le Palois et les Mœurs des Gens de la Campagne.

Oberlin, Johann Friedrich (1740-1826), an Alsatian ecclesiastic and philanthropist, born at Strasburg. In 1767 he became a Protestant paster Banting system for the reduction of

borders of the cantons of Uri and in the Steinthal (Ban-dea-Rochel), Grisons. It attains a height of about and became known for his efforts in furthering education and morals in that district. He was also the founder of the first infant schools, and in-terested himself in agriculture and industry. A collection of his writings was published in 1843. See Lives by

Obesity

by Butler (1882) and Stein (1899).
Oberon (Fr. Alberon or Auberon, and Ger. Alberth, rich elf), the king of the elves. In this country he is best known for the delightful part he plays with Titania, his wife, in Shake-speare's Midsummer Night's Dream. There is really no resemblance between this haughty little fairy and the ugly dwarf, Alberich, who steals the Rhine treasure in Wagner's Ring. O. is first called the 'roi du royaume de la fécrie' in the 13th-century metrical romance, Huon de Bordeaux. His name is the title of a masque of Ben Jonson (1616), an epic of Wieland (1780), and an opera of Weber (1826).

Oberschöneweide, a vil. of Prussia, in the Wahl Heide dist., of which it forms a residential suburb. It stands on the R. Spree, about 5 m. S.E. of $\mathbf{Berlin}.$

Oberstein, a tn. of Oldenburg, Germany, on the Nahe, 32 m. S.W. by W. of Bingen. It is the principal seat of the agate-polishing industry. The are ruins of two castles. Pop. 9669. There

Obertyn, a tn. of Galicia, Austria, m. N.W. by W. of Czernowitz. Pop. 5759.

Obesity, an abnormal excess of fat. almost amounting to a disease, accumulating principally in the thighs, abdomen, and neck. The accumulation of fat depends to a large degree on the health, but in a diseased state of the system the production and deposition of fat is increased. In many cases O. bears no proportion to the food taken, though it is occasionally the result of food being excessive in quantities of certain constituents relative to the oxidising powers of the consumer. It may occur at any period of life, but more commonly prevails after the fortieth year. The predisposing causes are sedentary occupations, inactivity, too rich diet, etc. It is frequent in certain diseases such as anæmia, and in some forms of in-sanity. Many systems have been recommended for the amelioration of this complaint, but treatment should. be suited to individual cases. main point to be considered is the careful supervision of diet and exercise, and the steady aim should be the gradual loss of a few ounces during the week. All rapid reduction of fat should be avoided, as it is injurious to the system in other ways.

undue corpulence is perhaps the best; contracts that were said to be created known and the most followed, consisting largely of the avoidance in diet of fat, sugar, and starches.

Obi River, see OB.

Object, see Subject.
Obiter Dictum (Lat. 'said by the way'), an expression used specially to denote those judicial utterances and decisions in the course of delivering a judgment which, taken by themselves, were not strictly necessary for the decision of the particular issues raised. In the language of jurisprudence an O. D. is of 'persuasive' and was equally bound to render some-not 'authoritative' efficacy, when thing according to law. The Roman cited by a counse argument. Maine

that the ancient Ro in the days when they were called some agreements not falling under upon to give responses or legal decisions on cases submitted to them. were in no way bound by the special facts of the case, but could multiply the data at pleasure, and so evolve a general rule from facts both real and imaginary. In other words, the formulation of legal principles was of greater importance than the mere settlement of the client's difficulties. But in the English courts of to-day one of the best reasons that can be urged by counsel to prevail upon the hardly be said that when the law of bench to ignore a proposition contained in the law reports, is to show that it was not necessary to decide

Oblate, a geometrical term applied to a spheroid produced by the revolution of an ellipseabout its shorter axis.

the matter in hand.

Oblates, in the Roman Catholic Church, congregations of men and women under simple vows. The best known congregation is that founded by Charles Borromeo, Archbishop of Milan, in 1578, and now known as the Oblates of St. Charles. They form a community of priests who put themselves in the hands of the bishop to be used where and how he wishes.

Obligation, a term used in jurisprudence (q.v.) to denote the binding force of a legal contract (q.v.). example, Savigny defines a contract as ' the union of several in an accordant expression of will with the object of creating an obligation between them.' In other words, O. connotes but does not denote contract, and that, whether we adopt Savigny's subjective standard or Professor Holland's view of the essential feature of a contract as an objective act in-dicative of agreement. The Indicative of agreement. The Institutes of Justinian define O. as a 'tie of law by which we are so constrained that of necessity we must render something according to the laws of our state, a definition which, by its generality, avoids the practical difficulties (especially in the class of of ebony, silver, or boxwood, and has

by mere consent, e.g. sale, partnership) in the way of any attempt to distinguish between a real or apparent consent between two wills. With the Roman lawyers an O. could have its source in delict (tort or actionable wrong), as well as in contract. In other words, the source of Os. was immaterial, and if a state of facts arose by which the debitor (person bound) was placed in much the same position in which he would have been if he had entered into a contract, he

A nude pact gives rise to no, but might be the basis of ion,' meant that there were

the recognised heads of contract, which were not enforceable, but were Some nude available as defences. pacts were, however, actionable, e.g. the pactum constitute pecuniae, or agreement to pay what one already owed. 'Natural Os.' were those which, devoid of a recognised legal force, had at least some moral claim to recognition, e.g. an agreement between a paterfamilias and any one in his power, like a son or slave. It need contract of any country has reached the point of substituting for symbolical ceremonial mere consent as the fact that 'draws with it the obligation,' it has reached its highest ethical conception, though evidential difficulties may arise in any particular case whenever it becomes necessary to say whether consent was freely and voluntarily given.

Obligation, Days of, in the Roman Catholic Church, days on which abstinence from servile labour and attendance at mass are commanded. They are (for England and Wales) the Circumcision, Epiphany, Ascension, SS. Peter and Paul, Assumption, All Saints, Christmas Day. For Scotland, St. Andrew's Day must be added, and for Ireland that of St. Patrick.

Oblique means declining from the vertical or horizontal direction, that is, inclined at any angle other than right angle. The obliquity of the ecliptic is the inclination of its plane to that of the equator.

Obock, or Obok, a French colony of

E. Africa, on the Gulf of Aden, forming part of French Somaliland. It has a small safe harbour, which is easy of seded by Jibuti. Pop. 22,500.

Oboe, or Hautboy (Fr. hautbois), a treble reed wood-wind instrument, provided with a double reed mouthpiece and a conical bore. It is made keys, which assist the production of the higher notes. The normal compass is from Bb below the stave to F in alt, and includes all the semitones; the music is written in the G clef. The O, is popular in orchestras because of its exceptional technical efficiency and because of its rich, if somewhat penetrating, and varied tones. In the middle ages it was called 'schalmey' (Eng. 'shawm'). Bach was fond of the 'hautbois d'amour,' now almost obselver. obsolete.

Obolus (Gk. δβολός 'a spit'), the smallest Greek coin and also the smallest Greek weight in common use. As a coin it was always equivalent to one-sixth part of a drachma, and was therefore worth about 1.625d., though the amount varied. As a weight it was again equal to one-sixth of a drachma, that is, to about 16 grains, although it fell to as low as 8 6 grains during the later Roman empire.

O'Brien, James Francis Xavier (1828-1905), an Irish politician. took part as assistant-surgeon in the American Civil War (1861) and afterwards became manager of a wine and tea business in Cork. At the instance of James Stephens he became a Fenian, and spent two years in prison (1867-69), having been sentenced to penal servitude for life because he led the assault on the Ballynockan police barracks. From 1885 till his death he sat as a Nationalist in parliament and was for many years general secretary to the United Irish League of Great Britain.

O'Brien, Lucius Richard (b. 1832), a Canadian painter, born at Ottawa. He was the first president of the Royal Canadian Academy of Arts, and held that honourable position for ten successive years (1880-90). Perhaps the most impressive of his pictures is 'Sunrise on the Saguenay at Ottawa.' He illustrated Bidden

Canada, 1881.

O'Brien, William (b. 1852), an Irish journalist and patriot, leader of the 'All for Ireland' party. He began life as a journalist, and after serving as a fournaist, and after serving as reporter to the Cork Daily Herald (1869-75) and contributing to the Freeman's Journal (1875-80), he established United Ireland in 1880, and edited it with a view to popularising the aims of Parnell and the Land Langer Much International Control Cont Land League. Much later in his career, in 1898, that is, he founded The Irish People, to give publicity to the objects and work of the United Irish League, in the formation of which he was again prime mover. Other products of his literary activities are Rome from its foundation to the time When wowere Boys, 1890; Irish Ideas, of the Emperor Augustus. Practically 1894: Recollections, 1906; and Olive Branch in Ireland and its History

fifteen keys, exclusive of two octave lory, 1910. His parliamentary career keys, which assist the production of dates from 1883, when he was rethe higher notes. The normal comtuned as a Nationalist by his native city of Cork. Since that time he has kept his seat, except during the year. 1895 to 1900, when he retired in consequence of the dissensions rife in the Irish party. At first an eager sup-porter of Parnell, he later veered round to the opposite side, but ever since he sat on the Land Commission of 1903, which in some measure solved the vexed land problem, he has thrown the whole weight of his in-fluence into the scale of the con-ciliation policy, which looks with confidence towards the union of Irishmen of all creeds and classes, There have been stormy periods in his career as, for instance, when he suffered continual imprisonments under the Crimes Act in connection with the National League and the Tenants' Defence League, etc. (1887-91), and again in 1890, when he was obliged to flee to America with Mr. Dillon in order to escape a political charge at Tipperary. Mr. O'B.'s faction came into serious collision with the Nationalists at Cork in 1910: as early as 1905 it was suggested at a meeting of the United Irish League that Mr. Dillon and Mr. Redmond, on the one hand, and Mr. O'B. on the other, should confer with a view to composing amicably their differences.

O'Brien, William Smith (1803-61), an Irish patriot, born at Dromoland, co. Clare. From 1828-31, and again from 1835-48, he sat in the imperial parliament, and though a Protestant spoke in favour of Catholic emancipation. In despair of securing justice for his country from Westminster, he joined O'Connell's Repeal Association, but in 1816 seceded therefrom, and became leader of the 'Young Ireland' party, who had no scruples about the use of physical force. The result was that in 1818 he was sentenced to death for his leadership of a rising which had ended in hopeless failure. The sentence, however, was

commuted, and in 1851 O'B. regained his liberty.

Obscene Prints and Publications, sec INDECENCY.

Obscurantists (Lat. obscurare), a term applied at the time of the revival of learning to those who were opposed to all new views, irrespective of their origin, by reason of religious prejudice. The word obscurantism ' is derived from Germany

Obsequens, Julius, a Roman writer, and author of a work entitled De Prodigits, recording the history of An nothing is known of his personal

Observantists, sec Franciscans. Observatory, an institution for the scientific observation, by means of suitable and highly specialised instru-ments, of natural phenomena, the conditions of which cannot be controlled by the scientist. They are They magnetic, classed as astronomical, meteorological, and seismic and volcanic. Astronomical Os. date from very ancient times, if we include obelisks, pyramids, and stone circles, which were undoubtedly so used, but the O. at Alexandria, founded 3rd century B.C., and associated with the name of Hipparchus and Ptolemy, is usually considered the first. During the Dark Ages many were founded in Mohammedan lands and carried on important work. The first European O. was that erected by Walther at Nuremberg (1472), associated with the name of Regio Montanus; then came Cassel (1561-97), erected by the Land-grave William IV., and Hven, Den-mark (1576-97), where Tycho Brahe inaugurated the methods since followed and extended. These were not merely evidences of the revival of learning, but followed on the demands of extended navigation in the latter half of the 15th century. was the needs of the art of navigation (q.v.) which gave rise to the founding (q.b.) which gave rise to the founding of Os. at Paris (1667) and Greenwich (1675) (see Nautical Almanac). Helvelius worked in his private O. at Danzig during the 17th century. The Greenwich O. commenced magnitudes. netic and meteorological work in 1838, neucana meteorological work in 1838, and special solar photographs since 1873. It is a royal O., presided over by an astronomer-royal, as also are the Os. at Blackford Hill, Edinburgh (1896, but founded 1818 at Calton Hill); Dunsink O. (1785), belonging to the University of Dublin; and that Care Town (1899). Other instituat Cape Town (1829). Other institu-tions in the British Is. include the Radcliffe O. (1771) and the Univer-sity O. (1875), the latter under the Savilian professor of astronomy, both at Oxford; Cambridge University O. (1820); Glasgow (1840); the Earl of (1820); Glasgow (1840); the Earl of Rosse's, Birr Castle, Ircland (1839); Dr. W. Huggins', Upper Tulse Hill, London (1856), famous for his spec-troscopic work; Earl of Crawford's, Dun Echt, Aberdeenshire (1872); Rugby School, and Stonyhurst Col-lege. The Herschels' O. at Slough (1786) and Gromphyldgy's Black-(1786), and Groombridge's, Black-(1806), are discontinued. There are now very many private Os. throughout the world, the chief work being carried out with one or two good instruments. British Os. also include those at St. Helena, Durban, Melbourne, Sydney, and Adelaide. In France there are Os. in Paris, where Caspin world Mandon Markets of the Caspin world Mandon Markets of the Caspin world Mandon Markets of St. 1988 (1998).

seilles, Nice, and other places. In Germany, Kiel Royal O., removed from Altona (1872), contains the offices of the Astron. Nachrichten; Berlin Royal O., where the Jahrbuch is edited; Bonn; Bothkam, where Dr. Vogel did his spectroscopic work (1871-74); Gotha; Göttingen, associated with Bessel; Leipzig; associated with Bessel; Leipzig; Munich, etc., with many others, including Potsdam (1874), devoted to astrophysics. Austria-Hungary has Os. at Vienna, Prague, Pola, Budapest, O'Gyalla, etc.; Italy at Milan, Rome, Naples, Palermo, etc., and Mt. Etna (9650 ft.); in Russia at Pulkowa, Dorpat, etc.; other European Os. include Copenhagen, Leyden and Brussels, Helsingfors and Abo. The Brussels, Helsingfors and Abo. modern tendency has been towards specialisation, but combined international work, especially in star cataloguing, is carried on. Astrophysics has claimed more and more attention, and Meudon, Paris, Potsdam, and Königstuhl are engaged mainly in that work. In America, the Yerkes O. at Williams Bay, Wis. (1897), is the finest; with it is asso-ciated Mt. Wilson, California (5900) ft.); the famous Lick O. (1879), Mt. Hamilton, California, is at about 4250 ft., and was completed in 1888; Harvard College O. at Cambridge, Mass. (1839), is associated with Professor Pickering, who has an outpost at Arequipa specially devoted to astrophysics; others include the Alleghany (1860); Cincinnati (1842); Yale; Leander McCormick, Virginis, Flower, Penn.; Naval O., Washington (1845); Florstaff Arizone 7900 ft. (1845); Flagstaff, Arizona, 7900 ft. (1894), associated with Professor Lowell. S. America has institutions at Cordova (1871), Rio de Janeiro (1871), Valparaiso, Monte Video, Propos Avras II should be noted Buenos Ayres. It should be noted that most years see expeditions fitted out by various Os. and governments for the better observation of eclipses, transits, etc., in suitable spots. netic.—The chief British O. at Kew has been removed to Bushey. Particular attention is generally given to this branch of observation in the naval Os. of the various countries, but the most important work of recent years has been that of temporary Os. in connection with Arctic and Antarctic explorations, particularly Cap-tain Scott's expeditions to Antarctica, when determinations of the S. magnetic pole were made. Meteorological.—In Britain, that at Kew is the headquarters, and all instruments are standardised there. There are There are principal stations at Greenwich, Oxford, Falmouth, Stonyhurst, Glas-gow, Armagh, and Valencia. Observations are carried out by means where Cassini worked, Meudon, Mar- of self-recording instruments as well

fluences of weather. Altogether there are some thirty observing stations in the British Islands, and further information is gathered from forty stations in Iceland and the Faroes, Scandinavia, Central Europe, France, Spain, and Portugal, and also from ships out in the Atlantic by wireless telegraphy. Among important 0s, are: Mt. Washington, New Hampshire (6286 ft.): Pike's Peak, Colorado (14,134 ft.); El Misti (19,000 ft.); Peru, the Harvard College insti-It.); Peril, the Harvard Conege instruction; Blue Hill, Boston; and temporary Os. have been established on Mt. Blanc (14,400 ft.) by MM. Vallot and Janssen; Puy de Dome; Mt. Ætna; the Rigi; Sonnblick; Wendelstein, etc. Meteorological observation for alcoformed great the hightion has also formed one of the chief duties of Arctic and Antarctic expeditions. Seismic (see Seismopeditions. Seismic (see Seismo-GRAPH).—Much work has been done with this instrument for recording earthquakes and earth tremors. Professor Milne kept regular observations at Shide in the I. of Wight; there is an instrument at Birmingham. Japan has nearly 1000 observing stations, and others are scattered all position, resembling common bottle-over the globe. Vesuvius has an O. glass. It is generally black, but may for the special study of volcanic be brown, red, or grey, or a combination. Up to the present there has been no cr-ordinated work except that due to the private enterprise of Product of the private ent there is an instrument at Birmingham. LOGY. See als cal Journal, 1

vol. xxxiv.; Symonus, maco...

of the Roya

lished in 1791 under the editorship of Mr. Doxat, who actually continued in that capacity for half a century. It was a comparatively obscure publication until William Innill Clement purchased a share in it some twenty years later. Clement, who subsequently bought the one-time flourishing Morning Chronicle from the famous James Perry in 1821, and the sporting paper, Bell's Life in London, soon organised the O. into the foremost paper of the Sunday press. But though still a leading Sunday paper the O. of to-day is a radically different publication from what it was in its earliest days, for it once rolled for its

as by regular eye observations, and illustrating events or producing por-include all possible controlling in-traits of persons of all-absorbing fluences of weather. Altogether there—public interest in days when it was none too safe to report either murder trials or events connected with politrials or events connected with pos-tics. For publishing a report of Thistlewood's trial in 1820 he in-curred a penalty of £500, which, how-ever, was not enforced. The corona-tion pictures of the O. proved an enormous success, and secured for the proprietor what then amounted to a great profit (Dictionary of National Biography). Up to the time prior to Gladstone's Home Rule proposals the policy of the O. was Liberal, but thereafter it became Unionist. Its price in 1887 was 4d., but before the 19th century was out it had gone do published at 1

> devoted to foreign and home Louis Carachae in Saturday. It has been notable in recent years for the penchant of over-florid Protectionist articles of Mr. Louis Garvin, who in 1913 began writing for the Pall Mall Gazette.

only Sunday

Obsidian, a dark-coloured vitreous charge a conchoidal fracture hat of glass, and yields fragments largely em-

primitive races for speares, arrow-points, etc. O.

vol. xxxiv. Symonus, action of the Journal; and publications of the Meteorological Office, London.

Observer, one of the oldest London Sunday papers in existence; estable Caucasus. O. was worked as a gemental of the capital of the stone by the ancient Greeks and Romans, and at the present time it is sometimes cut and polished as an ornamental stone.

Obstetrics (Lat. obstetrix, midwife; from obstare, to stand before), that part of the science of medicine which deals with the care of women in respect of child-birth. It is therefore a division of gynacology, which deals with diseases of women, especially with those affecting the organs of reproduction. Midwifery was in the hands of women until about the 16th century; indeed, the interference of a physician in the process of childlabour was looked upon as immoral. The transference of the midwife's earliest days, for it once relied for its insuccess largely on its illustrations, and in a count of the progress made in illustrated journalism in England a great deal to the rediscovery of would be complete without some reference to the spade work of Clement in that respect. Perhaps he consists of manipulating the focus in was too energetic in the matter of the uterus so as to bring the feet to

the outlet; by this means children were safely delivered who could not otherwise have been born. Other notable developments have been the inven-tion of the forceps by the Chamberlens. Huguenot refugees settled in London; the administration of ancesthetics initiated by Sir J. Y. Simpson in 1847; and the diminution in cases of puerperal infection by the use of antiseptics. Modern obstetricians are concerned with the process of parturition and the varying conditions met with, the employment of operative or instrumental measures if occasion calls for them, the care of the woman during the puerperium, or period dur-ing which the uterus is regaining its normal size, and the supervision of the new-born child's welfare during that period.

Obwalden, see Unterwalden.
Ocampo, Florian de (1499-1555), a
Spanish historian, born at Zamora,
in Leon. He is remembered for his
Cronica general de España, published
at his native place in 1541. This work
began at the Deluge, but was only
carried by O. as far as the second
Punic War, being completed by

Morales.

Ocaia: 1. A tn. of Spain in the prov. of Toledo, 7 m. S.S.E. of Aranjuez. Pop. 7000. 2. A tn. of Colombia, 220 m. S.E. of Cartagena. Pop. 6000. Ocarina, a musical toy wind instrument of terra-cotta, in shape resembling a goose's (It. oca) egg. It was introduced into England by tra-

was introduced into England by travelling German or Tyrolese musicians, and sounds somewhat like a flageolet. There are usually eight or ten finger holes, a whistle-like mouth-piece, and a large internal cavity. Modern instru-ments have a row of keys. The Chinese 'hsuan' (c. 3000 B.C.) was

perhaps its ancient prototype.
O'Carolan, Torloch, or Carolan,
Turlogh (1670-1738), an Irish bard;
became blind after an attack of smallpox in 1634, and this calamity probably accounts for his profession.
Patrons furnished him with a servant and horses, and he wandered with his harp through Connaught. O. composed his own songs and melodies, and was much in request both by

rich and poor

Occam, William, see OCKHAM.

Occleve, Thomas, see HOCCLEVE.
Occlusion, a shutting up; the closing together of the masticating surfaces of the upper and lower teeth; the absorption of a gas by a metal. Many solids are capable of occluding gases when in a molten state, and the gas so occluded is usually emitted on solidification. Certain metals, notably extend northwards; the Indian the platinum metals, have the pro-Ocean is a semicircular sweep beperty of absorbing gases without being yound the equator, terminated by fused, especially when the metal is the S. mountain masses of Asia;

in a finely-divided state. Platinum black, for instance, takes up 100 times its volume of oxygen, and 110 times its volume of hydrogen; palladium absorbs over 600 times its volume of hydrogen; iron, cobalt, nickel, copper, silver, and gold exhibit the phenomenon of occlusion in a less degree. The intimate contact of these gases when occluded leads to chemical combination, in which great heat is evolved. Thus a jet of hydrogen or coal-gas directed against platinum black causes the metal to glow, and the jet is speedily ignited. The large proportion of hydrogen occluded by palladium led to the supposition that definite compound, palladium hydride, Pd.H., had been formed, but recent chemical opinion does not favour the suggestion.

Occultation usually refers to the concealment of a star by the moon, which, by its eastward motion, eclipses the star. The star disappears behind the eastern limb and reappears at the western. In the first half of the lunation, the E. limb being dark and the star a mere point, the O. is sudden, forming a most accurate means of determining the moon's position, and thus its perturbations; the Greenwich time being known, the longitude of a

pressed pole, with a radius equal to

the depression; the circle of perpetual apparation being equal and opposite. Ocean, a first-class British battleship, launched in 1903, with a dis-

placement of 12,950 tons and a speed

of 18 knots.

Ocean and Oceanography. The ocean is the mass of continuous water covering 72 per cent. or nearly three-fourths of the earth's surface; parti-ally enclosed or shallow areas are sometimes known as seas. The area The area has been computed at 142,000,000 sq. m.; average depth, 11,500 ft. (some 2½ m.); volume, 300,000,000 cub. m. Distribution. — In the northern

hemisphere the proportion of land to water is 2:3; in the southern, 1:47. There is a 'land hemisphere,' however, in which they are nearly equally distributed, and a water hemisphere in which the

times that of

side of lat. 6 ous belt of c...

arctica from which the great oceans

Ocean forms an embayed end, oc-cupying a polar 'cap' of radius 20°; the Pacific, a roughly circular area some 170° in breadth at the equator and terminating at the Arctic Circle. The forms of the ocean areas roughly agree with the totrahedral theory (see MOUNTAINS). Certain features of the oceans have had yast influence, specialising climate, habitability, and character of population in certain regions; e.g. the continuity of the Atlantic and Arctic with its N.E. trend may be considered the main factor in European supremacy and progress; the termination of the Indian

the Atlantic is a great S curve to ment of planetary winds, a firm sta-the Arctic Circle where the Arctic bility which nevertheless allows a bility which nevertheless allows a vigorous, but not extreme, system of terrestrial winds.

Temperature.—The surface temper-

ature varies from over 80° F. (annual average) within the tropics to freezing point towards the poles. There is a rapid decrease of the temperature downwards to some 400 fathoms, with a further slow decrease down to abysmal depths, when it shows 30° in higher latitudes and 35° to 40° in the torrid zone. Sea water freezes at about 28° F., so the ocean may be said to be cold in general. Bottom temperatures show a quite different condition in enclosed seas such as the Mediter-Ocean some 20° N. of the equator ranean. The specific heat of sea water is responsible largely for the monitories than that of fresh water, but soon climate and peoples of the Far still high, being 0.93 for a density of

WATER HEMISPHERE

LAND HEMISPHERE





FIG. 1

Atlantic, in the N. hemisphere, the slowly, and this is the great basis of N. Pacific termination, the break in its tempering influence; one volume continuity in Central America, the of the occanic water can raise the projection of Brazil i are other features of

rivers into the Atlantic or Arctic, the Indian getting a tradition,
Pacific a particularly narrow, contributing land margin. (For further as occanic climate.

Composition.—Occanic water contributions are Pacific, Composition.—Occanic water contributions are proposition.—Occanic water contributions are proposition. Indian getting a relatively.

ATLANTIC, etc.)
Importance.—The great influence of the oceanic body of water is that of moderating, tempering, and regulating the climatic conditions of the earth; it is the great store of the liquid hydrosphere, and its reactions with the sun's heat delicately counterpoise those of the land and air; its move-

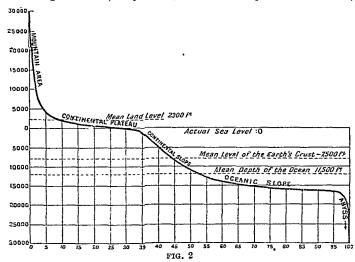
the marginal seas of the 11.027; it therefore warms and cools of 3100 vols. of air or

ne amount in attaining importance. Again, large area of land drains by means of long pared with land the ocean remains cool in summer and warm in winter, and its effect on the atmosphere is

tains nearly 200 times the dissolved salts of fresh water; 100 lbs. contain 3.5, i.e. the salinity is 3.5. The surface shows a salinity varying roughly 3 to 4, regions of heavy rainfall, slight evaporation, or large ingress of fresh water being less salt. Regions of the trade winds and calms show heavy salinity, but the enclosed seas, the ments are complex, yet each has its Mediterranean and Red Sea, are vast significance; its great extent and heaviest. The salts dissolved are even surface favours the develop-sufficient to form a crust 170 ft, thick

The over the surface of the ocean. over the surface of the occasion and comparison with land elevation in is: Sodium chloride, 77-7 per cent.; Fig. 2, where Wagner's estimates of is: Sodium chloride, 77.7 per cent.; Fig. 2, where Wagner's estimates of magnesium chloride, 10.8 per cent.; the percentage areas of land and water magnesium sulphate, 4.7 per cent.; are shown (lower figures) for heights calcium sulphate, 2.5 per cent.; (left hand figures) above and below potassium sulphate, 2.5 per cent.; (sea-level. The greatest depth sounded Ca and Mg carbonates, 0.3 per cent.; is the Nero Deep off the Ladrone Is.,

The Depth of the ocean is best shown



Mg bromide, 0.2 per cent; other salts, 5269 fathoms. 0.2 per cent. This shows the great deepest ocean predominance of the chlorides, river water having a predominance of car-bonates (57.72). The composition is practically constant except at great depths where more calcium or mag-nesium carbonate is found. The terrigenous blue muds show a higher percentage of chlorides.

The Pacific is the deepest ocean on the average, the Atlantic and Indian following in order (see Pacific, etc.). The bed of the ocean has a gently undulating surface with depressions, rises, ridges, and plateaus, the margins forming what is known as the continental shelf, a sill of very varying breadth, but of very great influence on the

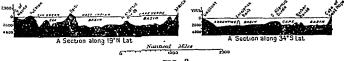


FIG. 3

Density.—This varies on the surface tides. Fig. 3 shows a typical section from below 1.025 to above 1.023, of ocean much exaggerated vertically. The form of the bed has a great somewhat with depth.

somewhat with depth.

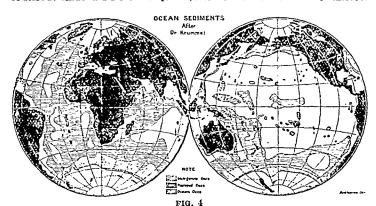
Pressure.—Professor Tait est an increase of 1 ton per sq. in. in depth; that in the lowest being 4 tons per sq. in. If these as follows: Littorat, between high pressures were relieved, the level of and low water marks, sands, gravels, mids. etc. Shallow vater, less than the ocean would rise 200 ft.

eir temperatures. been the subject

They are classed

If these as follows: Littoral, between high muds, etc. Shallow water, less than

100 fathoms, the same. Continental rises these are Diatom ooze, and or Hemipelagic: Blue mud, dark and Globigerina and Pteropod ooze reslaty in colour, due to decomposition of vegetation, the reduction of sulphates to sulphides, and the formation depend plates to sulphide and ferrous sulphide latter formed of the relics of siliceous



from the ferric oxide. Shell remains and calcareous shells, pumice stone, do not form a large percentage. Red desert and volcanic dust, and meteoric mud, where the iron predominates dust.

over vegetation remains. Green mud, of the ocean are due mainly to preduce to hemical action of sea water on vailing winds. Fig. 6 shows these, and fine particles of rock derived from the it will be noticed in each homisphere

OCEAN SEDIMENTS After Dr Krummel FIG. 5

land, forming the green mineral great swirls are formed by the agency glauconite. Volcanic and coral muds and sands, occurring in the regions of near Cancer and Capricorn; their volcances and coral formation. Pelagic direction is clockwise in the N., anti-or Deep Sca: These are oozes due to siliceous and calcarcous organisms, induce minor counter-currents along mostly microscopic. Over ridges and the equator. In the Atlantic and

Pacific feeders of warm water run off to the N., and cold currents descend from the Arctic. from the Arctic. A similar arrangement is obliterated in the S. hemisphere by the belt current due to the Roaring Forties. In the N. Indian Ocean the currents change with the The influence of these monsoons. currents together with the winds above them is the determinant of climate for oceanic land margins; a marked effect being that in the latitudes of the great swirls, the W. margins of the ocean, i.e. the E. continental regions, are warm, wet, and humid, the E. margins of the ocean tending to desert conditions; the warm and cold branches produce such contrasts in climate of the same

waters, in regions of low pressure, due to inblowing winds; but atmospheric pressure alone as a cause, without wind that is, is known in the case of Sciences' (q.v.).

Sea-level.—The 'level' is disturbed

by high evaporation, rainfall, inflow of large rivers, the melting of ice, heaping by prevailing winds, the set of tidal streams, etc., but also to the gravitational attraction of large masses of land. The careful survey of India has shown a rise of level of 300 ft. from Cevlon to the head of the Arabian Sea, accounted for by the proximity of the great mountain masses of the Pamirs and Himalayas. (For life in the ocean, see BOTANY, BIOLOGY, FISH, etc.) Life in the

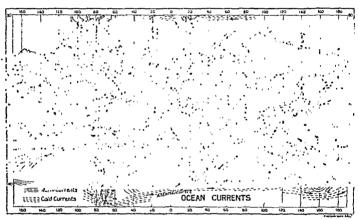


FIG. 6

latitudes as are shown in the case of Eurone and Labrador. Within the swirls are large areas of practically still water covered with the mass of living floating seaweeds known as norms nothing seaweets known as sargassum. In addition to the surface circulation (see further, ATLANTIC, PACIFIC, etc.) there are complicated horizontal currents very little known at present, and a definite 'creep' of cold water from the Polar regions to the equator, which is found at depths below 2500 ft. More or less vertical currents, naturally slow, are set up by the 'welling up' of this water at the equator, compensated by downward movements in the tropics due to increased density. The whole question of these currents must await greater knowledge of their distribution. Schott has adduced the influence of atmospheric pressure. The effect of

ocean is possible mainly because of the absorption of oxygen by sea water, to the extent of about 8 c.c. per litre, but this diminishes with in-crease of temperature. That this dissolved oxygen is found in all sea water even from the depths is due to vertical circulation over extended regions; in enclosed seas, e.g. Black Sea, it is not present at the bottom.

Scientific exploration commenced with the laying of submarine cables, about 1855. Athanasius Kircher had in 1664 attempted a map of ocean currents, but before that interest lay in the wind circulation. H. B. de Sassure made observations of temperatures at great depths in 1780. Major Rennell attempted a scientific account of the currents between 1742 and 1830, while Arctic exploration added to the general knowledge. Sir John this is seen in the heaping up of Ross examined the oceanic deposits, made observations of temperature with a self-registering sheathed thermometer. M. F. Maury of the American navy published his *Physical Geography of the Sea* in 1856, which was the result of investigations organised under the U.S. Hydrographic Office, and led to the similar research since systematically carried on by the navies and marine services of many countries. In England, Professor Forbes and Dr. Carpenter during the last century gave a start to marine biology, and the British Government sent ships into the N. Atlantic to carry on the work. The voyage of H.M.S. Challenger (q.v.), 1872-76, an expedition sent out by the British Government for complete investigation of the ocean, led to a systematic scheme of oceanography, and to great scheme of oceanography, and to great improvement in instruments and methods. Other expeditions have been: Vöringen, Norwegian, in the M. Atlantic, 1876-78; Talisman and Travailleur, French, Bay of Biscay, 1880-83; Vilyaz, Russian, Pacific Ocean, 1886-89; Pola, Austro-Hungarian, Mediterranean and Red Seas, 1890-98; Fram Norwegian drift in the 1390-98; Fram, Norwegian, drift in the Arctic Sea, 1893-96; Ingolf, Danish, 1896; Blake and Albatross, U.S. Fish Commission, Atlantic, Caribbean, and Pacfic, 1877-1901; Princess Alice, Prince of Monaco, N. Atlantic, since 1885; Valdivia, German, Atlantic, Indian, and Southern oceans, 1898-99; School, Dutch Molor Archivisters Siboga, Dutch, Malay Archipelago, 1900; the Belgica, Gauss, Anarctic, Scotia, Fram, Discovery, Terra Nova, Nimrod, Pourquoi Pas, Antarctic voyages during the present century. These latter have added immensely to the science of marine biology, and the conditions existing in the southern ocean, the great belt where all the oceans communicate.

Permanence of ocean basins .- Much discussion has arisen as to the primaryal permanence of the deep ocean areas, as roughly marked out by the blue mud. The absence of geotogical representatives on land of the deep sea oozes led to theories of permanence, particularly clucidated by Dr. A. R. Wallace and Lord Kelvin. Jukes-Brown and Professor Harrison established the geological evidence for elevation of cozes in Barbados. They have further been found in Cuba. Borneo, and some S. Pacific islands. The distribution of plants, animals, and man appears to require the non-

and showed the existence of deep have been very differently distributed ocean life. In 1857 H.M.S. Cyclops in pastages. See Wallace, Island Life, in past ages. See Wallace, Island Life, 1880: Professor E. Haug, Traité de Géologie, 1907-11; Professor Frech, Lethwa geognostica, 1876-1910 (in progress), for maps; W. C. Thomson and J. Murray, Report on the Scientific Results of H.M.S. Challenger, 1882-95, and Support of Scientific Results of H.M.S. Challenger, 1882-95, and Support of Scientific Results 1807. Summary of Scientific Results, 1897: A Retrospect of Oceanography, Report of VI. Inter. Geog. Congress, London, 1895; F. Nansen, Scientific Results of North Pole Expedition, 1902; K. Karstens, Eine Neue Berechnung der mittelerung Trefen der Ocean, 1894; Boguslawski and Krümmel, Handbuch der Oceanographie; Wagner, Geo-graphisches Jahrbuch, since 1888; graphisches Jahrbuch, since 1888; Krümmel, Der Ocean, 1902; J. Thoule, Guide de l'Océanographie pratique, 1895; Walther, Allgemeine Mecres-kunde, 1893. Publications of Meteoro-logical Office, London; U.S. Hydro-graphic Department; Deutsche Lee-warte. Reports of expeditions: Por-tuning and Lighting London, 1873; cupine and Lightning, London, 1873; Vöringen, Christiania, 1880 - 1900; Travailleur and Talisman, Paris, 1891 tratatieur and Tatisman, Paris, 1891 et seq.; Prince of Monaco's expeditions, Monaco, 1889 et seq.; Ingolf, Copenhagen, 1900 et seq.; Polavienna, 1891 et seq.; Falm, Christiania and London, 1900 et seq. The Occan by Sir John Murray (1913; Home University Library) is a popular summary. See also Tides, Waves, Winds. River. Hydrometer. WINDS, RIVER, HYDROMETER, Sounding, Navigation, etc.

Ocean Grove, a summer and senside resort, 55 m. S. of New York City by rail, in Monmouth co., New Jersey, U.S.A. It is noted for its Methodist

camp meetings, and also for its concerts. Pop. (1910) 1377. Oceania, a general term for the islands of the Pacific Ocean, comprising all those intervening between the south-eastern shores of Asia and the western shores of America. O. is divided into three great sections, viz. the Malay Archipelage, Australasia, and Polynesia, and roughly covers an area of about 60,000 sq. m., excluding Australia and New Zealand, scattered over a wide expanse of ocean. Most of the islands are coral atolls, though some are of volcanic origin.

Ocean Steamship Company, Ltd., the successor, under the same management and ownership, of several older steamship companies, of which the first dates from 1852. In 1863 this enterprise became the West India and The distribution of plants, animals, enterprise occame the West India and and man appears to require the non- Pacific Steamship Company, which permanence of occanio areas for elucidation. The Antarctic expeditions of recent years are expected to throw much further light on the sub-pleet, but already it is generally con-which the first, the Agamemnon, sailed sidered that the occans and continents from Liverpool in 1868. In 1875 the

Steamship Company Ocean wasl registered as unlimited. In 1891 a service was begun, the ships engaged in which fly the Dutch flag, from Amsterdam to Liverpool and Java. The three services, with headquarters at Singapore, run to (1) Western Australian ports; (2) Deli (Sumatra); (3) China. The Ocean Steamship Company is known as the Blue Funnel Line or the 'Holt' Line from Mr. Alfred Holt. In 1902 it absorbed the China Mutual Steam Navigation Navigation Company and became a limited company. The fleet consists of fifty-nine boats, aggregating 261,617 tons.

Oceanus, a deity of Greek mytho-

logy. Homer pictures 'oceanus' as a great belt of river sweeping round the earth. Herodotus and the later Greek poets, like Euripides, identify him with the sea, and in after time he became synonymous with the Atlantic. Homer personifies Oceanus as the father of all things, even of the gods. Hesiod explains that he was the son of Uranus and Gæa, the husband of Tethys, and the father of all the great river herida. the great rivers besides 4000 sea

nymphs or Oceanides.

Ocellus, Lucanus (fl. c. 500), a Lucanian Greek, and member of the Pythagorean school, named from his birthplace, Lucania, in Italy. He is said to have written various philosophical writings, but the only one of his works extant is his On the Nature of the Universe, in the Ionic dialect, maintaining the doctrine of the

eternity of the world.

Ocelot. Panther-cat, and Tiger-cat are popular names applied to Felis pardalis, a species of Felidæ found in tropical America. It is a beautiful animal, averaging in length from two and a half to three feet, and has a tail about a foot long; the colour is usually tawny with dark spots or bars. The O. is a good climber, and feeds for the most part on birds caught in its native forests.

Ochakov, a fort. tn. of Russia, in the gov. of Kherson, on the Black Sea, 40 m. E.N.E. of Odessa. There is a considerable grain trade. Pop. (1897)

10,784.

Ochiali, or Ali el-Uluji (b. 1508), a Barbary corsair, born in Calabria. In 1570 he defeated the Turks off the shores of Sicily, though previously, as Pasha of Algiers, he had recaptured Tunis for Sultan Selim II.

Ochil Hills, a range of hills in Scotland, in Perthshire, Clackmannan, Kinross, and Fifeshire. They extend for about 25 m. from the Tay, near Perth, to the Bridge of Allan. The highest summit is Ben Cleuch, 2363 ft. Coal, iron, copper, and lead are found, and rich pasture is afforded to sheep and cattle.

Ochiltree, a par. and vil. of Ayrshire, Scotland, on the Lugar Water, 101 m. E. of Ayr. Pop. (1911) 2024.
Ochino, Bernardino (1487-1564), an

Italian reformer, born at Siena. A monk at first, he was vicar-general of the Order of Capuchins, but fearing the vengcance of the Inquisition for his heretical sermons, he fled to Geneva, and attached himself to Calvin. He confirmed his apostasy by marriage, and after travelling as a Protestant preacher, accepted from Cranmer a prebendary of Canterbury, and published in Latin his spirited Trajedy or Dialogue against the Pope. But his apology for polygamy and his attack on the Trinity brought him into utter discredit with the Reformers. and eventually he died a miserable death from plague in Moravia.

Ochna, a genus of evergreen flowering shrubs (order Ochnaceæ) bearing yellow-flowered racemes and black or crimson fruits, which give an attractive appearance to the shrub when grown in the hothouse.

Ochra, Okro, Gobbo or Gombo, the names for the pods of Hibiscus Abelmoschus (synonym Abelmoschus esculentus), a plant belonging to the order Malvaceæ, which is cultivated in the north-west of India. The mucilaginous pods are used as food and for

thickening soup.
Ochre, the name given to several varieties of native earths, which consist of a mixture of hydrated oxide of iron, with silica and alumina. range in colour from light yellow to brown. The incrustation of oxides of other metals, antimony, bismuth, other metals, antimony, bismuth, nickel, etc., are also called Os., though they are not so important. Red and yellow Os. are prepared by grinding and washing, and are extensively used as pigments. O. is found in several parts of England, notably in Anglesey and Devonshire; also in Canada, etc.

Ochrea, or Ocrea, a name given to the stipules or leaf-like bodies at the base of the petioles, which are united in a sheath round the stem, as in the Docks and other members of the

order Polygonaceæ.

Ochrida, or Okhrida, or Orid, a tn. of former European Turkey, in the vilayet of Monastir, 28 m. N.W. thereof, on Lake Ochrida. It is the seat of a Bulgarian bishopric. Pop. 18,000.
Ochterlony, Sir David (1758-1825), a British general was here in Boston.

a British general, was born in Boston, A Smithingeneral, was both in Joseon, Massachusetts, and joined the Indian Army in 1777. In 1804 he defended Delhi against Holkar. During the war with Nepal (1814-15), he distinguished himself by his capture of the hill forts of the Gurkhas, and the Segauli treaty, which he secured, is still in force. His strategy brought the Pindari War (1817-18) to a successful liberty, but a shattered constitution, issue without bloodshed.

Ocimum, a genus of half-hardy annuals and shrubs (order Labiatæ) bearing whorls of white flowers. basilicum is the sweet or common Basil, which is grown in kitchen gar-dens, its leaf tops being used for flavouring and other culinary purposes. Its seeds have numerous medicinal uses (see Basil).

Ockham, or Occam, William of (d. c. 1349), called 'Doctor Singularis et Invincibilis,' an English schoolman, was born in O., Surrey. Like his Like his master, Duns Scotus, whose rival in philosophy he afterwards became, he belonged to the order of Franciscans, and in 1342 became their general. For his implication in the revolt of the order against Pope John XXII., at Perugia (1322), and for his writings against papal supremacy, he was afterwards excommunicated. In philosophy he revived the tenets of nomi-The Dialogus gives the most nalism. complete expression of his religious views.

Ockley, Simon (1678-1720), an English Orientalist, born at Exeter. became vicar of Swavesey, near St. Ives, where he passed most of his life. His chief work is The History of the Saracens (1708-18), and he also wrote The Improvement of Human Reason.

Ocna, or Tirgu, a tn. of Roumania, in the prov. of Bucau, on the R. Trolu, 75 m. S.S.W. of Jassy, with salt works. Pop. 8000.
O'Connell, Daniel (1775-1847), The

Liberator, an Irish patriot and orator, born near Cahirciveen, co. Kerry. In 1798 he was called to the Irish bar. As a lawyer he displayed an exceptional gift for examining witnesses, whilst his vigorous and earnest oratory exercised a powerful influence over the jurymen, as later over the House of Commons, to which he was returned in 1828. The year 1829 saw the emancipation of the Irish Catholics—a reform which would never , , been for . realised

union of .. .ich con-

ciation. In 1841 O'. and greater agitat the repeal of the UI.

at the head of a nory carrier, O'C. realised that the Catholics of his country would win nothing from a Tory government. The activities of the old association were revived, and huge mass meetings were everywhere organised. O'C. felt confident of success, when he was condemned to prison on a charge of sedition (1844). A few months later he was set at He entered the diplomatic service in

a devastating famine, and a disgust with those revolutionary spirits who publicly advocated physical force, combined to defeat his ends.

O'Connell, Daniel, Count (1745-1833), a French general, uncle to Daniel O'Connell, the Liberator. He served in the royal Suedois, the Irish brigade, and the German regiment of Salm-Salm. In 1792 he shared the disasters of the Bourbon princes, and afterwards joined the other emigres in London. At the siege of Gibraltar (1782) he saved the life of Charles X.

O'Connor, Arthur (1763-1852), an Irish rebel, entered the Irish House of Commons in 1791 in the Liberal inter-The French Revolution turned him into a republican, and in 1796 he joined the United Irishmen, and later became editor of the Press. In 1798 he was tried for high treason, and was imprisoned for five years. After his release he went to France, where he represented the Irish revolutionary He was made a general by Napoleon in 1804, but was not engaged in active service. He never returned to England, and in 1818 became a naturalised Frenchman.

O'Connor, or Connor, Bernard (1666-98), an Irish physician and author, born in Kerry. About 1694 he acted as physician to John Sobieski, king of Poland, and returning to England the following year, lectured with suc-cess at Oxford, Cambridge, and in London. His chief works were: Dis-Medico - Physico, sertationes Evangelium Medici, published in 1695 and 1697 respectively, the latter being an effort to explain on natural principles the miraculous cures performed by Christ. In 169 History of Poland. In 1698 O'C. published a

O'Connor, Feargus (1794-1855), a Chartist, called to the Irish bar, but it is as a politician he became notori-He was an active supporter of the Reform Bill of 1832, and was returned to parliament for co. Cork. In 1835 he was unscated on account of not being possessed of the necessary property qualification, and soon after allied himself with the Chartists, and especially with the 'physical force' Chartists. From 1817 he sat in the mmons for Nottingham. lic Asso-

very prominent in the

defy the government by marching to Westminster to present their petition. He was, in 1852, declared to be in-

sane, and was placed under control.
O'Connor, Sir Nicholas Roderick
(1843-1908), a British diplomatist, born at Dundermot, co. Roscommon.

1866, and four years later became interval in the scale which has never third secretary at Berlin. In 1883 he was made secretary of legation at Pekin, and subsequently consul-general in Bulgaria; minister at Pekin, and St. Petersburg, and ambassador at Constantinople in 1898, where he passed the remaining ten years of his life, working strenuously for the policy of administrative reform.

O'Connor, Roderick (1116-98), the last king of Ireland, acquired the title in 1166, and nine years later acknowledged the supremacy of Henry II. of England, being defeated by Strong-bow in 1171. Although forced to conclude a treaty, he never wholly submitted to English rule, and was tinally deposed. Consult O'Conor Don, O'Conors of Connaught, 1891.
O'Connor, Thomas Power (b. 1848), an Irish politician, born at Athlone,

He entered journalism as a junior reporter on the Saunders' Newsletter, a Dublin conservative journal, and three years later went to London in search of fresh journalistic work. He found employment on the staff of the Daily Telegraph, becoming sub-editor, and gave this up for an appointment in the London office of the New York Herald. 1880 he entered parliament as memher for Galway, and became a prominent personality in the Parnellite party. Since 1885 he has been M.P. for Liverpool, having been returned five times. He is familiarly known five times. He is familiarly known as 'T. P.,' having founded and been first editor of T.P.'s Weekly, M.A.P., The Star, The Sun, and The Weekly Sun, of which the first three still flourish. His publications include Lord Beaconsfield: a Biography; Glad-stone's House of Commons, The Par-nell Movement, Napoleon, In the Days of my Youth, and numerous essays and articles.

Oconto, a city of Wisconsin, U.S.A., in Oconto co., on the Oconto R., at the entrance into Green Bay, 25 m. N.E. of the head of the bay, and is an important centre for the lumber trade. Pop. (1910) 5629.

Ocotea, or Oreodaphne, a genus of tropical American trees (order Lauracea), bearing tough alternate leaves and racemes or panicles of small green O. bullata is sometimes grown in the greenhouse. O. opifera exudes a volatile oil when the bark is cut, and the fruit is sometimes distilled in Brazil to yield an oil used as an emulsion.

Octacamund, see UTAKAMAND.

Octans, a small constellation near the S. Pole, above Pavo and Apus,

varied, extending from any one note to the next corresponding note above or below, as C to C, E to E, etc. or below, as C to C, etc. The C. The C. of the diatonic scale is described thus, taking the scale of C: C, tonic, 1st degree; D, supertonic, 2nd degree; E, mediant, 3rd degree; F, sub-dominant, 4th degree; G, dominant, 5th degree; A, sub-mediant, 6th degree; B, leading note, 7th degree. The O marks the length of scale as scale in one two these of scale, as, scale in one, two, three, or four octaves. There are usually seven Os. in the pianoforte.

Octavia: 1. A sister of the Roman emperor Augustus. She first married Marcellus, consul, in 50 B.c., and on his death became the wife of Mark Antony (40 B.C.), who, however, forsook her in a short space of time for Cleopatra, which led to the war between Antony and Augustus. O. was noted for her beauty and womanly virtues. She died 11 B.C. 2. (b. c. 42 A.D.) A daughter of the emperor Claudius and Messalina, and wife of Nero, who in 62 A.D. divorced her, on account of her being barren, and later accused her of unfaithfulness and had her put to death in 62 A.D.

October (Lat., octo, eight), originally the eighth month of the old Roman calendar, the year beginning in March. It retained its old name in the Julian calendar, but then became the tenth month with 31 days. The Slavs term it yellow-month, from the falling of the leaf, and an old name for it in Germany was 'wine month.' In England it has long been the chief month for brewing. The principal ecclesiastical feasts celebrated during the month are those of St. Luke on the 10th and St. Simon and St. Jude on the 28th.

Octomeria, a genus of small epi-phytal orchids bearing yellow, purple and white, spotted with red, flowers. They are grown in moist fibrous peat and sphagnum in the warm greenhouse.

Octopus, a name for large numbers of tetrabranchiate cephalopods, with eight arms and without the internal shell or 'bone' which is found in the mantle of many cephalopods. The body is oval or rounded, and the suckers are generally sessile. They are widely distributed on the shores of almost all temperate and tropical seas, and do not attain the great size of some of the decapod cuttles. mature females are extraordinarily prolific, and may lay as many as 50,000 eggs in the course of a few days. The eggs resemble grains of formed by Lacaille (1752).

Octave is an interval in music of lucent and are attached to a common stalk in clusters of about 1,000 each chromatic degrees. It is the one These are fixed to a rock or stone, and watches over them with ceaseless attention the whole time. Os. spend the daytime lying hid in the shadow of rocks but are more active at night. Their powers of colour change have

often been observed. Octroi, a term used with special reference to the system of duties imposed on different articles coming into different French districts or municipalities. In effect it is a kind The system was of inland tariff. abolished for a short time during the revolution, but shortly afterwards re-established. There has been occasional if half-hearted agitation for its abolition since that time; but to-day it flourishes in unabated vigour. chief point of attack has always been not so much the system itself, as the abuses to which it is liable when the collection of the duties is farmed out to contractors, in the analogy of the old Roman vectigalia. Farming-out has now for long been as strictly regulated as the scale of rates. By an Act of 1816 only such articles as are intended for local consumption are dutiable, with the exception various necessaries of life like flour, and grain, fruit, fish and vegetables. The system is also in vogue in parts of

O'Curry, Eugene (1796-1862), an Irish scholar, born at Dunaha, co. He was first employed in the topographical and historical section of the Irish ordnance survey, and in of the frish ordinance survey, and in 1854 was appointed professor of Irish history and archeology at the Roman Catholic University of Ireland. He translated the ancient Brehon laws, the Book of Lismore, etc., and published three volumes of lectures entitled On the Manners and Customs of the Ancient Irish (1873).

Italy and the Iberian Peninsula.

Odal, sec ALLODIUM.

Odawara or Odowara, a tn. of Hon-shiu, Japan, 34 m. W.S.W. of Yokohama. Pop. 16,400. Odde, a vil. of Norway, in S. Ber-

genhuus, on the Sör Fjord, 18 m. S.E. of Bergen. It is a popular tourist

centre.

There Oddfellows. is much in which town is now situated the registered offices of the largest friendly society in the world, the famous Manchester Unity Independent Order of O., which society and the Grand United Order of O. have now appropriated to themselves the once generic name of 'O.' The fundamental principle of Oddfellowship, according Funds £1,618,860 at December, 1910.

as Aristotle knew, the period of in- to its own laws, was the obligation to cubation is fifty days. The female render assistance to every brother render assistance to every brother who might apply for it in sickness, distress, or other misfortune. seems that the existing orders of O. still retain some of the mystic signs, grips, and initiatory rites peculiar to freemasons; but, generally speaking, they are rather to be regarded as fully fledged friendly societies (q.v.), whose transactions in their essentials are quite open, and not as they once were, secret societies. Whether secret societies or not, they are, of course, perfectly lawful, and unex-ceptionable, and the Acts of George III. for punishing criminally secret societies in general, made special exceptions in the case of societies for charitable purposes and freemasons' lodges, exceptions the more obvious in the case of O. from the text of their general laws which enjoined assistance only to such brothers as might be 'well attached to the queen and government.' Manchesler Unity Order of Oddfellows: Independent this great friendly society was established in 1810. Its objects are similar to those of most other societies (see Friendly Societies.) Any respectable person not under 16 nor over 45 may be proposed for membership by a subscribing member, but must medical undergo a. examination. There are also juvenile and female The entrance fee varies in lodges. different districts, but is never over The contributions and benefits 10s. are graduated according to the age of the member, but is uniform in all districts included in the N. London area and 1 m. S. of King's Cross: £8 at death, £4 on wife's death, Ss. full and 4s. half sick-pay, for a monthly contribution of 1s. 2d contribution of monthly The different districts to 2s. 6d. may adopt tables giving higher rates, and by additional subscriptions the sum payable at death may be as much as £200. The institution of a widow and orphan fund is optional. Administration is by central committee of district deputies. the four principal officers, nine directors and the last past-master. At the end of 1910 the funds were no oddfellows. There is much in the end of 1910 the famous with and the total Freemasonry (q.v.), although apparently the institution of the former is not above two centuries old. Oddfellowship began in Manchester, in Manchester. Grand United Order of which town is now situated the regis-Manchester. Grand United Order of Oddfellows: Established 1798. Object, to pay sums at death and by way of relief in sickness or distress, and to give temporary help to members travelling in search of employment. Both sexes are admissible as members. Management is by grand officers and board of directors.

Membership, 542,968. offices, All Saints, Manchester.

Ode (Gk. ψδή, a song), originally any lyrical piece adapted to be sung. In the modern use of the word, Os. are distinguished from songs by not being necessarily in a form to be sung, and by embodying loftier conceptions and more intense and passionate emotions. The language of the O. is therefore abrupt, concise, and energetic, and the highest art of the poet is called into requisition in adapting the metres and cadences to the varying thoughts and emotions. Hence the changes of metre and versification that occur in many Os. The rapt state of inspiration that gives birth to the O. leads the poet to conceive all nature as animated and conscious, and, instead of speaking about persons and objects, to address them as present. Among the highest examples of the O. are the Song of Moses and several of the psalms. Dryden's Alexander's Feast is reckoned one of the first Os. in the English language. We may mention, as additional specimens: Gray's Bard, Collins' Ode

in Child-

hood.

Odenathus or Odænethus, a cele-brated prince of Palmyra, in the latter part of the 3rd century, who re-covered from the Persians the Roman E. and restored it to the empire, after a series of brilliant successes. For these he was rewarded by the Em-peror Gallienus with a triumph, and soon began to aim at independent empire. He was assassinated when starting to Cappadocia to put down the Goths, and on his death was succeeded in his position by his wife, the celebrated Zenobia.

Odenkirchen, a tn. of Prussia in the Rhine prov., 21 m. S.W. of Düssel-dorf, on the l. b. of the Niers. Spinning, weaving, dyeing, and tanning are among the industries. Pop. 20,049.

among the industries. Pop. 20,049.
Odense, a tn. and seaport of Denmark, and cap. of the Is. of Fünen, on the Odense R. 87 m. S.W. of Copenhagen. The exports are agricultural and dairy produce, and the imports are timber, iron, coal, petroleum, etc. The town is a bishop's see. King Canute and other kings are buried in the cathedral, and it was the birthplace of Hans C. Andersen. Pop. 42,237.
Odenwald, a mountainous region of Germany, extending for 50 m.

Registered | Neunkircher Hohe (nearly 2000 ft.), and Krähberg (1965 ft.).

Ode Ondo, a large tn. of Nigeria, W. Africa, 64 m. N.N.W. of Benin. Pop. 60,000.

Oder (Lat. Viadrus), one of the principal rivers of Germany, rises in the Leselberg, Moravia, and enters Prussian Silesia at Odersberg after a course of some 60 m. After traversing Brandenburg in a N.W. direction, it crosses Pomerania and empties itself into the Stettiner Haff. Length 500 m.

Odessa (Gk. Odessus), an important seaport and commercial city of S. Russia, in the gov. of Kherson; stands on an acclivity sloping to the shore on the N.W. coast of the Black Sea, 32 m. N.E. of the mouth of the Dniester. The harbour is large and spacious, and is protected by large moles defended by strong works. The bay is frozen only in the severest winters, and then only for a short time. The town is well laid out, with wide streets and squares, plentifully supplied with trees. The city contains many fine edifices, as the cathedral of St. Nicholas, the imperial the admiralty, the custom-

3. It is the seat of a univerh is attended by over 3100

The principal exports are wheat and other sorts of grain, linseed, tallow, leather, caviare, fish, and wool. The exports amount to about £17,000,000, and the imports to £3,000,000. Pop. 478,900. In ancient times O. was inhabited by a Greek colony, and later by Tartar tribes. In 1793 a Russian fortress was built here, and became the nucleus of a town and port. During the Crimean War (1854) it was bom-barded by the British. In 1905 it barded by the British. In 1905 it suffered from a naval mutiny and riots.

Odeum, or Odeon (Gk. & Šecov), among the ancients the name for a public building devoted to performances of vocal and instrumental music. The O. was smaller than the dramatic theatre, and usually roofed in. The oldest known in Greece was the Skias at Sparta (c. 600 B.C.). The O. of Pericles on the S.E. slope of the Acropolis was completed about 445; that of Herodes Atticus or Regilla on the S.W. slope of the Acropolis was built Domitian built the about 160 A.D. first in Rome.

Odevaere, Josephus Dionisius (1778-1830), a noted Belgian painter, born at Bruges. In 1728 he went to Paris, sen. Pop. 42,237.

Odenwald, a mountainous region of Germany, extending for 50 m. between the Neckar and the Main. It is well wooded, and many old eastles crown its heights. The chief summits are Katzenbuckel (2057 ft.), large scale, and many of them are to be seen at Paris, Brussels, Ghent, and Bruges.

Odeypoor, sec UDAIPUR. Odhner, Klas Theodor (1836-1904), a Swedish historian. In 1871 he became professor of history at Lund, and was subsequently elected a member of the Swedish Academy and royal record keeper. His publications include: Sveriges Politiska Historia under Koning Gustaf III.'s Regering, 1895-1900: Orsakerne till Gustaf II. Adolfs deltagande i 30 åriga Kriget, 1882, etc.

Odilon-Barrot, BARROT, CA-

see

MILLE HYACINTHE ODILON.
Odin, Woden, or Wuotan, the supreme god of Teutonic tribes, identified under Roman influence with Mercury. whose day was teutonised into 'Woden's Day' (Wednesday). O. is regarded as the source of wisdom and valour, and the patron of culture and heroes. In Norse mythology O. held a high place among the 'Ases' or secondary gods. He was, in all probability, originally a storm-god, his name signifying 'mad' or 'the raging one, and he is attended by two ravens and two wolves, and riding the horse Sleipnir.

O'Donnell, Leopold, Duke of Tetuan (c. 1809-67), a Spanish general and statesman, born at Santa Cruz, Teneriffe, of Irish extraction; entered the army at an early age, fighting for the Queen against the Carlists in the Civil War (1833). In 1840 he sided with the Queen-mother, Maria Christina, and shared her exile in France. He be-came the enemy of Espartero, whom he drove from power in 1843, but two years later was appointed minister of war under Espartero, and in 1859, as Prime Minister, led an expedition the Moors, for which he

received his dukedom.

O'Donovan, John (1809 - 61), an Irish historian and archæologist, born in co. Kilkenny, Ireland. He prepared a translation of the Brehon laws, and was actively engaged on the Ord-In 1832-36 nance Survey of Ireland. he wrote a translation of the Annals of Ireland by the Four Masters, published 1848-51. He also translated and edited for the Irish Archwological Society The Battle of Magh Rath. 1845 he published a grammar of the

Irish language.

Odontoglossum, a genus of orchids, most of which can be successfully grown in a cool house, and which, on account of the beauty of their flowers and their general grace, are the most popular orchid genus. Most of them are natives of S. America. The flowers are borne on a long spike from five to forty in number, and in a few species fluid into the tissues or eavities of the

pictures are, for the most part, on a these spikes are branched and bear a hundred or more blooms. The colours are chiefly brown, yellow, or white, and are often spotted.

Œdema

δδούς, Odontopteryx (Gk. tooth. πτέρυξ, wing) is a fossil bird of the family Steganopodidæ. Its remains are found in the Lower Eccene of

Britain.

Odontornithes (Gk. δδούς, tooth. opvis, bird) is the name applied to a group of birds found only in the fossil state, which were characterised by having true teeth in their jaws. extent of the term varies with different ornithologists, but it usually includes the important genera Hesperornis and Ichthyornis, both of which belong to the Cretaceous period.

Odontospermum, a genus of composite plant containing about a dozen species, which occur round the Mediterranean. O. pygmacum is one of the best-known species, and is peculiar on account of its habit of retaining its seeds in dry weather, and setting them free when the moist condition of the

soil would favour germination. Odoric (1286-1331), an Italian monk, born at Pordenone or Portenan in the Fruili. He became a missionary, and travelled over the greater part of Asia. An account of his journeyings is contained in his Life and Travels, published after his death. See Venni,

Elogio storico del B. Oderico, 1701. Odoven, a com. in the prov. of Drenthe, Netherlands, 9 m. S.E. of Assen. Pop. 10,212.

Odyssey, see ULYSSES. Odyssey, see Homen.

Œcumenical, or Ecumenical (through Lat. from Gk. -from the who

a term applied t whole Christian

in the general councils from that of Nicwa Councila). a onwards (see Apostles' Creed, The the Creed, and that commonly called the Creed of St. Athanasius are spoken of as Œ. symbols, being held through-out the whole Church. The Roman Catholic Church considers a council Œ. if summoned by the Pope from the churches in communication

Rome. Œcumenius, Bishop of Tricca in Thessaly, supposed to have flourished in the 9th or 10th centuries. To him are attributed several commentaries in Greek on books of the N.T., on the Gospels, Acts of the Apostles, Pauline Epistles, and Catholic Epistles. His works were published at Paris in Greek and Latin in 1631.

Oedelem, a com. in the prov. of W. Flanders, Belgium, 6 m. E.S.E. of Bruges. Pop. 5500.

Œdoma, the infiltration of serous

body, particularly with regard to the reggio (1809). His Digte, which apsubcutaneous connective tissue, col-peared in 1803, marked the comlections of serum in internal cavities, mencement of a new era in Danish or when widely diffused being more generally known as dropsies. Œdematous effusions are characteristic of | ter, most forms of inflammation, and are due to the natural effect of the body to rid itself of the irritating agents by flooding the part with white corpuseles. In other cases Œ is caused by disease of the circulating system, the increased blood-pressure in a part causing copious exudation of the serum through the walls of the capil-Malignant Œ. occurs at times by after serious injuries, and is due to the activity of a specific bacillus; the condition is characterised by rapid spread of the area of exudation, with destruction of tissue and evolution of gas.

Oedenburg, a tn. in Hungary, cap. of co. of same name, 19 m. S.E. by E. of Wiener Neustadt, situated in a wine-producing district. Its chief manufs, are agricultural implements, Its chief sugar, preserved fruits, etc.

34,000. Oedicnemus, a genus of Plovers (q.v.)

Edipus, in Greek mythology, was the son of Laius, King of Thebes, and of Jocasta. His father having been warned by an oracle that he would perish at the hands of his offspring, E. was exposed on Mt. Cithæron, whence he was rescued by a shepherd of King Polybus of Corinth. The child was brought up at Corinth as the king's son. When he had grown up, he was told by the Delphic oracle not to return home as he must in-evitably be the murderer of his father and the husband of his mother. He consequently fled from Corinth, and on his way to Thebes slew Laius in a quarrel, being ignorant of the identity of his antagonist. Œ. then delivered the country from the Sphinx, and was rewarded with the hand of Jocasta, by whom he had Eteocles, Polynices, Antigone, and Ismene. As a punishment for this incest Thebes was devastated with a plague, and the oracle declared the country could only be delivered by the expulsion from it of the murderer of Laius. Œ. made careful inquiries, and discovered to his horror that he was the guilty man. Jocasta hanged herself, and (E., having put out his eyes, left Thebes, led by his daughter Antigone, and died at Colonus, near Athens. His tragic history was set forth by Sophocles, Eurinia's and Technique Euripides, and Æschylus.

Œhlenschlager, Adam Gottlob (1779-1850), one of the leading Danish romantic poets, born in Copenhagen. first of his tragedies was

literature. Two years later he published two volumes of Poetiske Skrifand then travelled on Continent for four years. In 1810 he returned to his native place, and was appointed to the chair of resthetics in the Copenhagen University. publications include Helge, Nordens-guder, and Dina (1842), the most successful of the later tragedies. In 1830-31 an Autobiography appeared, and in 1850 his Reminiscences. See Lives Arentzen (1879) and Nielsen (1879).

Œhlschlager, see OLEARIUS, ADAM. Ociras, a tn. in the state of Plauhy, Brazil, 93 m. S.S.E. of Therezina.

Pop. 5000. Oeland, a long and narrow Swedish island in the Baltic, separated from Sweden by Kalmar Sound. It is 10 m. broad and covers an area of 519 sq. m. It is well wooded in parts, and has good pasture ground for cattle. There are good fisheries all round the coast: cement and alum works; and grain and sandstone are largely exported. Borgholm, on the W. coast, is the cap. and only town. Pop. 27,000.

Oelwein, a banking city of Fayette co.. Iowa, U.S.A., 14 m. N. of Independence. Has machine shops and agricultural interests, and manufactures cloth and boots. Pop. (1910) 6028.

Enocarpus, a genus of S. American palms, bearing flowers in large spikes. followed by oval fruits from which wine is made. Œ. bacaba, a tall native Brazil, and one or two other species are sometimes grown in peaty soil in the stovehouse.

Oenomel, a sweet liquid, a mixture of wine and honey, which was much in favour as a beverage among the ancient Greeks. The word has come to be figuratively applied to language or thought in which sweetness and strength are combined.

Enone, in Greek mythology, the daughter of the river-god Cebren and wife of Paris, son of Priam, King of Troy, who afterwards deserted her for Helen. Ovid, in Heroides, v., gives a description of her grief on finding herself abandoned. See also Tennyson's Œnone.

Oenophyta, a tn. of ancient Greece, Bœotia, celebrated for the victory of the Athenians over the Bœotians in 457 B.C., by means of which the former gained possession of Bootia.

Enothera, a genus of hardy annuals, biennials, and perennials (order Onagraceæ), natives of America. E. bienn is the fragrant, yellow-flowered evening primrose which has so long Haakon Jarl (1807), followed by Cor- been grown in gardens that it has

become naturalised. Some other species are, like it, night-flowering, but many, notably Œ. fruiticosa, bloom only in the day. A number of species are now incorporated in the genus Godetia.

Oerebro (Sweden), see OREBRO.

Oersted, Hans Christian (1777-1851), a Danish physicist, born at Rudkjöbing. He was appointed professor of physics at Copenhagen in 1806. His greatest discovery was the result of experiments on the magnetic needle with the electric current, described in his Experimenta circa Effectum Contlictus Electrici in Acum Magneticam. He also published a Manual of Mechanical Physics, and wrote numerous studies in chemistry, popular science, metaphysics, etc. Most of his works have been translated into Ger-See Biography by Hauch and Forchhammer (1853).

Oesel, an island in the Baltic, at the entrance of the Gulf of Riga, belonging to the Russian gov. of Livonia. It is 45 m. long, and covers an area of 1000 sq. m. The coasts in the N. and S. are very bold and steep. Arensburg, on the S.E. coast, is the only town of importance, and carries on a trade of potatoes, grain, whisky, and fish. O. is noted for its small breed of hardy ponies, similar to those of Shet-land. The coast fisheries, especially of seals, are important. Pop. 60,000.

Esophagus, see GULLET.

Œstridæ, a family of dipterous insects consisting of large, hairy flies with very short antennæ inclosed in a cavity in the fore part of the head, with rudimentary mouth-parts. The larvæ are nearly all parasitic on mammals, and the perfect insects are well known as the obnoxious bot-flies. The larve of Œstrus ovis infest sheep ; those of Gastrophilus equi prepare pupate in horses; while the larve . Hypoderma lineata and H. bovis . found in cattle.

Octinger, Christoph Friedrich (1702-82), a German theologian born at Göppingen. He developed a theosophic system, which he set forth in sermons and works collected by Ehmann. In all, he published about 70 works setting forth his theosophic views. See Lives by Auberlen and

Wächter.

Octtingen, a tn. of Bavaria, Germany, on the Wornitz. The principal manufacture is that of musical instruments.

Ofen, the German name of Buda,

see BUDAPEST.

Ofen Pass, in the Bernese Alps, leads from the Swiss portion of the Inn valley to the valley of the Upper Etsch, from Zanez to Merls. Alt. 7071 ft.

and fosse which formed the boundary between Mercia and Wales. It is It is supposed to have been constructed by Offa, King of Mercia (d. 796), to separate England from Wales, although some antiquaries regard it as of Roman origin. It is traceable through Hereford, Shropshire, Montgomery, Debigh, and Flint, from the Wye to the Dec.

Offenbach, a tn. of Hesse, Germany, on the l. b. of the Main, 5 m. S.E. of Frankfort. The manufactures include fanoy leather goods, pocket books, albums, etc. town owes its prosperity to the settlement of the French refugees. Pop.

75,593. Offenburg, a tn. of Germany in the duchy of Baden, 26 m. from Baden. Its industries consist in the manufacture of cotton and linen goods, machinery, malt, hats, tobacco, and

Pop. 16.810.

Offensive Trades. This expression, as used in the Public Health Act, 1875, denotes certain specified trades. namely, those of a blood boiler, bone boiler, fellmonger, soap boiler, tallow melter, or tripe boiler, and also any other noxious or O. T., business, or manufacture. In constraing words so general as 'any other, etc.,' the ordinary rule is to interpret them with the connectation 'of the same kind.' But under the Public Health Acts Amendment Act, 1907, a local authority may apply to the Local Government Board for an Order declaring any part of that Act to apply to their district, and in dis-tricts to which Section 51 of the Act applies, O. T. will include any trade business, or manufacture which the local authority declare by Order confirmed by the Local Government

rout the council penalty

of £50, and a daily penalty is incurred by those who continue without such consent to carry on an O. T. established since 1875. With the object of abating nuisances from O. T., the Public Health Act, 1875, provides that if the medical odiecr of health or any ten inhabitants of a district or two legally qualified medical practi-tioners certify to the urban district council that any candle-house, melting-place or house, soap-house, slaughter house, or any place for boiling offat or blood, or for boiling, burning, or crushing bones, or any place used for any business causing effluvia is a nuisance, and dangerous to the health of the inhabitants, the council must proceed summarily against the owner or occupier (or Offa's Dyke, an ancient rampart even the foreman or other employee

for penalties; which penalties, on lores at first travelled from place to subsequent conviction, may be inplace, but later districts were formed creased to \$200. An action may also and the procedure systematised. The be brought in the High Court for nuisance (q.v.). The only defence to show that the best practicable means for abating the nuisance were taken; but the court will sus-pend judgment if the offender undertakes within a reasonable time to employ practicable means to abate the nuisance. Local authorities also have statutory powers for regulating

alkali and chemical works.

Offertory (Lat. offerforium, a place of offering; an oblation), in the Roman Catholic Church, a sentence said or sung at Mass after the Creed, when this is said. In the Church of England the name is applied to the offertory-sentences appointed to be read by the minister after the Creed or sermon at the Communion, while the alms of the people are being col-lected. In recent times the name has been transferred to the alms

themselves.

Office Found, in law, a phrase used to denote the finding of a jury in an inquisition or inquest of office, by which the crown becomes entitled to take possession of the real or personal property of a deceased person (escheat and bona vacantia respectively). The inquest of office is a prerogative mode of process, and was devised by law as an authentic means of giving the sovereign his right by solemn matter of record. As early as 1440 it was enacted that all grants by the king of forfeited land before O. F. should be void. The inquiry or inquest is conducted by some officer of the crown werelly corner (a) the crown, usually coroner (q.v.) or sheriff, and the facts left to the consideration of the jury. The effect of a finding for the sovereign, in the case of land, is to put the crown into immediate possession without the necessity of a formal entry. At the present day such inquests of office as may be held are confined to cases of the escheat of real estate, the crown in most other places availing itself of the ordinary remedies provided by law.

Office, Holy, or more completely the Congregation of the Holy Office of the Inquisition, forms a department of the Roman curia for the examination of books and the trial of ecclesiastical The history of the Spanish Inquisition is notorious, but it is necessary to point out that this early came under the control of the monarchy, thus becoming a political rather than The institution a religious weapon. of the Inquisition dates from the time of Gregory IX., who entrusted the work of seeking out heresy chiefly to the Dominicans. The Inquisi-

Inquisition was never set up in Eng-

See Inquistrion.

Officer. This term when it stands alone is always held to refer to an O. holding the King's commission. The Active Army List contains the names of all Os. serving either on full or half pay. But the status of O. holds good even after retirement from the active list. Os. whilst on full pay are for-bidden to hold any municipal office, exempted from jury service, either coroner's, grand, or common juries, and may not become directors of any company. Special permission must be granted before an O. on the active list can leave the country. Although any O. can be dismissed at His Majesty's pleasure, nevertheless it is only after trial by a general court-martial that an O. can be punished. The term field O. includes colonels, lieut.colonels, and majors. Captains, lieutenants, and 2nd lieutenants are

called company Os.

Official List, see STOCK EXCHANGE. The Official Secrets. Official Secrets Act of 1890 makes it a misdemeanour punishable with imprisonment not exceeding one year together with a fine, (1) to enter any place be-longing to the crown, e.g. an arsenal or fortress, or other place where he has no right to enter, for the sake of wrongfully obtaining information, or (2) to obtain from any such place as above mentioned any document, plan, or sketch, etc., or knowledge of any kind, and communicate the purport of the same to a person not entitled to receive such communication, or (3) to communicate information from documents, etc., that have in any way whatsoever come into one's control or possession. But where the intention in so entering any such place or obtaining such plans, etc., is to communicate the information, knowledge, or document to a foreign government, the offender is liable to a maximum punishment of penal servitude for life. This last-mentioned proviso in the Act has been several times put into force within recent years against various German spies in England, reciprocal compliments being paid to English spies in Germany.

Offsets, in surveying, lines drawn perpendicular to a given straight line, along which distances can be measured off. In architecture the sloping ledge in the face of a wall formed when the lower part of the wall is reduced in thickness is called an O.

Ofterdingen, Heinrich von, a famous

minnesinger (q.v.).
Ogam, or Ogham, a curious kind of writing or stenography used by the and some other Celtic nations in early Christian times. These 'Os.' were for the most part found incised on the edges of stone monuments in Munster and the south-west of Ireland, and monuments with similar though ogamic inscriptions have occasionally been found in Ulster and other parts of Ireland, the purely Gaedheilg or Gaelic origin of this method of writing is rendered the more probable by the fact that such monuments were so largely to be met with in that part of Ireland in which the ancient Scots first effected a landing. The writing itself consists mainly of short straight lines placed vertically and obliquely, or in various other positions relatively to a central horizontal straight line. method is ingenious and certainly capable of expressing all the words of an ancient language, for the position and grouping of strokes is obviously susceptible of almost influite permutations and combinations. Palæographists have not, however, found the task of deciphering very easy, in spite of the key afforded to them in the historic Book of Ballymote, a vellum MSS, written in the 14th century, i.c. only some three or four centuries after the period when ogamic writing was last in use, as evidenced by occasional notes in Os. found in a few of the MSS. of St. Gall. Apart from these marginal notes there is not anywhere extant a single piece of literature in ogamic characters, a fact which has led to the supposition that if O. was ever anything more than a method of shorthand, it was only so in pre-Christian times.

Ogbomosho, or Ogbomoshan, a tn. of S. Nigeria, W. Africa, 145 m. N.E. by N. of Lagos. Pop. 58,000.
Ogden, a city of Utah, U.S.A., and the cap. of Weber co., on the Weber, 35 m. N. of Salt Lake City. Fruit-growing and farming are carried on, and silver and gold are worked in the neighbourhood. Pop. (1910) 25,580.

Ogdensburg, a city and riv. port of New York, U.S.A., in St. Lawrence co., on the St. Lawrence R. It pos-sesses a considerable trade in grain and lumber. The manufs are woollen

and silk goods, wooden ware and brass goods. Pop. (1910) 15,933.

Ogee, a moulding formed by two curves, the upper convex and the lower concave, called also the cyma reversa. In French, the ribs which in Gothic vaulting cross the vault diagonally are known as ogive ribs, and the adjective is also frequently applied to arches in a way that makes it practically synonymous with Gothic.

ancient Irish, the Gaelic races of Walcs, Rhine Palatinate, 5 m. W. of Manuheim. Manuis. tobacco and textiles. Pop. 7751.

Oggione, Oggionno, or Uggione, Marco da (c. 1470-1549), an Italian painter, born near Milan. He studied under Leonardo da Vinci, and made several copiesof his 'The Last Supper,' one of which is in the Royal Academy. He also executed frescoes for the church of S. Maria della Pace at Milan, the two best being 'The Mar-riage at Cana,' and 'The Assumption,' both of which are now in the Brera.

Ogham, see OGAM. Ogilby, John (1600-76), a miscellaneous writer, born near Edinburgh. He accompanied Strafford to Ireland, and was made deputy master of the revels, but his fortunes being ruined by the Civil War, he returned to England. Having learned Latin he trans-lated Virgil into English verse (1649-50), and being successful in this attempt turned to Greek, and published his Homer in 1660. He was entrusted with the 'poetical part' of the coronation of Charles II. in 1661, but was unfortunate to lose his house and books in the great fire of 1666. He afterwards set up a printing press. from which he issued many beautiful books, the chief of which was a series of atlases illustrated by Hollar and others.

Ogilvie, John (1797-1867), a lexicographer, born in Banffshire. In 1824 he entered Aberdeen University, and in 1831 was appointed mathematical master in Gordon's Hospital. Ho compiled the Imperial Dictionary, 1850 (supplement, 1855); Comprehensive

zine, 1831-32, and worked for Blackie & Son's annotated edition of Stack-

house's History of the Bible, 1836. Ogilvy, Gavin, see BARRIE, JAMES MATTHEW.

Oglethorpe, James Edward (1696-1785), an English general and philanthropist, the founder of the state of Georgia, born in London. He served under Prince Eugene, and distinguished himself in the campaign against the Turks, 1716-17. In 1722 he became M.P. for Haslemere, and in 1729 was chairman of the parliadebtors' mentary committee on prisons. Having thus gained some knowledge of pauperism and its consequences, he, in 1732, obtained a charter for settling the colony of Georgia in America as a refuge for paupers and a barrier for British colonies against Spanish aggression. He met with some opposition, howover, in the administration of his Oggersheim, a to. of Bavaria, in the colony, especially by his prohibition

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of negro slavery and rum, and he also and through the centre by 34°S. The had difficulties with the Wesleys and cap, is Rancagua. Area 2289 sq. m. Whitefield. But a noteworthy fact is that he defended his colony against the Spaniards by allying himself with the Indians. Returning to England in 1743, he took part in the Jacobite insurrection of 1745 and was accused misconduct, and although quitted his life as a soldier was at an end, and he did not return to Georgia. He was a friend of Dr. Johnson, Boswell, Goldsmith, Burke, Walpole, and Pope has immortalised his name in the couplet:-

'One, driven by strong benevolence of soul,

Shall fly like Oglethorpe from pole to pole.

Ogmore and Garw, an urban dist. and tn. of S. Wales, in the co. of Glamorganshire, 1 m. S.W. of Bridgend. Coal is extensively mined. Pop.

of dist. (1911) 26,747.

of dist. (1911) 26,747.
Ogowé, Ogowai, or Ogoway, a riv.
of W. Africa, in French Equatorial
Africa, rising in lat. 3° S., a little to
the S. of Ngango. Its direction is
N. to W., and then S.W., receiving
several tributaries on both sides, including the Lolo and the Ivindo. It
enters the Atlantin by a delta after a enters the Atlantic by a delta after a course of 750 m.

Ogulin, a com. of Hungary, in Croatia-Slavonia, in the co. of Ogulin, 40 m. S.E. of Fiume. Pop. 9000.
Ogyges, or Ogygus (Ωγύγικ), the

son of Bœotus and one of the Bœotian aborigines. He was king of the Hectenes, the oldest inhabitants of Bœotia, which was visited during his reign by an inundation of Lake Copais. This flood is usually called

after him the Ogygian.
Ogygia, a genus of trilobites belonging to the family Asaphidæ. The Upper Cambrian to the Silurian.

O'Hara, Charles (1740 - 1802), British general, was an illegitimate son of James O., second Lord as and Monongahela at the W. foot of the Alleghanies, at Pittsburg, in the staff at Gibraltar from 1757, and five years later became lieutenant-governor. In 1793 he was governor of Toulon, and was captured by the French, being exchanged in 1795. In that year he became engaged to Mary Berry, but within a few months he broke it off and went to compare the states of Viscoling to the Alleghanies, at Pittsburg, in Pennsylvania, and flows W.S.W. 950 m., with a breadth of 1200 to 1000 ft., draining, with its tributaries, of Toulon, and was captured by the course it separates the northern states of Ohio, Indiana, and Illinois from the broke it off and went to compare the states of Viscoling the Alleghanies at the W. foot of the Alleghanies, at Pittsburg, in Pennsylvania, and flows W.S.W. 950 m., with a breadth of 1200 to 1000 ft., draining, with its tributaries, of Ohio, Indiana, and Illinois from the broke it off and went to compare the without the properties of the Alleghanies, at Pittsburg, in Pennsylvania, and flows W.S.W. 950 m., with a breadth of 1200 to 1000 ft., draining, with its tributaries, of Ohio, Indiana, and Illinois from the broke it off and went to compare the properties of the Alleghanies at the W. foot of the Alleghanies, at Pittsburg, in Pennsylvania, and flows W.S.W. Tyrawley. He entered the army in he had been appointed r. There is a pen-portrait of governor. There is a pen-portrait of him in Captain Hamilton's novel, Cyril Thornton.

cap. is Rancagua. Area 2289 sq. m. Pop. 93,000.

Ohio

Ohio: 1. One of the United States of America, bounded N. by Michigan and Lake Erie; E. by Pennsylvania and Virginia, from which it is separated by the Ohio R., which also forms its southern boundary, separating it from Virginia and Kentucky; and W. by Indiana. The Ohio R. forms its boundary for 436 m., and its lake shore is 230 m. The high tablelands hilly, and in parts mountainous regions of O. are drained by numerous rivers, among which are the Great and Little Miami, Sciota, and Muskingum, affluents of the Ohio; and the Maumee, Sandusky, Huron, Vermilion, Cuyahoga, and Ashtabula. which empty into Lake Erie. The coal-beds of Eastern O. are enormous, with abundant deposits of iron ore. Petroleum and natural gas, sand-stone, and limestone are produced. Thesoilisrich everywhere; the climate is temperate, with a liability to a cold in winter reaching sometimes to 20° below zero. The forests, which still cover large portions of the state, are rich in oak, black walnut, maple, etc. Horse-rearing, cattle-breeding, and dairy farming are important in-dustries. The chief agricultural productions are Indian corn, wheat, rye, oats, hay, sorghum, tobacco, hemp, peaches, apples, grapes, cattle, sheep, and swine. The chief manufactures are iron and steel, bricks and tiles, Portland cement, clothing, furniture, spirits, wines, cottons, and woollens. A large commerce is carried on by the Ohio R., the lakes, two canals which connect Lake Erie and the Ohio. The state is organised in eighty-eight counties. The chief towns are Cincounties. Cleveland, Toledo, cinnati, fossil species are found from the Columbus, the capital. There were in 1910 9145 m. of railways. O. was organised and admitted as a state in 1803. Area 41,060 sq. m. Pop. (1910) 4,767,121. 2. Riv. of U.S.A., second largest affluent of the Mississippi, is formed by the union of the Alleghany and Monographia at the W. fact of there are falls), Wheeling, Maysville, and Pittsburg and Cairo at its source and mouth. It is navigable from Wheeling, 100 m. below Pittsburg. It O'Higgins, an inland prov. of Chile, is the channel of a vast commerce crossed in the extreme E. by 70° W., which it shares with its chief branches is the channel of a vast commerce,

the Tennessee, Cumberland, Wabash, which Green, etc.

Ohlau, a tn. of Germany in the prov. of Silesia, on the Ohlau, 16 m. S.E. of Breslau. Its tobacco and eigar manufs. are important, and there are brick works, machine works, and boot factories. Pop. 9036.

Ohlendorffia, a genus of shrubs (order Scrophulariaceæ). O. procumbens, a native of Africa, is sometimes grown in the greenhouse. It bears blue funnel-shaped flowers and is of prostrate habit.

Ohlenschläger. see ŒHLENSCHLÄ-

GER.

Ohler, Gustav Friedrich, see ŒHLER. Ohligs, formerly Merscheid, a tn. of Prussia in the Rhiue Province, 17 m. N. of Cologne. There are weaving and dyeing works, flour mills, breweries, iron foundries, and also manufs. of hardware, cutlery, and bricks. Pop.

27,839. Ohlmüller, Joseph Daniel (1791-1839), a German architect, born at Bamberg. He studied at Munich and in Italy, and in 1835 became a member of the council for the direction of public works in Munich. He assisted Klenze on the Glyptothek in Munich, and built the brick Gothic church in the Au suburb of the same city.

Ohm, see Electricity—Electro-

motive force and resistance.

Ohm, Georg Simon (1787-1854), a German physicist. He announced his law of the theory of the voltaic current in 1825, and published The Galvanic Circuit worked out Mathematically in 1827. He became professor at Munich in 1849, where he died.

Ohmacht, Landolin (1760-1834), a German sculptor, born in Würtemberg. His works are characterised by their grace, and amongst them are monuments to Generals Desaix and Kléber, Koch, professor of history, and Oberlin. He also executed 'The Judgment of Paris,' a group of four figures, in the royal garden at Munich; a statue of Neptune; Psyche; a marble effigy of Venus, generally considered his masterpiece, and a colossal statue of Adolph of Nassau at Spire. Among his busts are those of Lavater, Klopstock, Raphael, and Holbein.

Ohm's Law, see ELECTRICITY.
Ohrwalder, Father (c. 1855-1913),
late priest of the Austrian mission station at Delen. He became a missionary in early life, and in 1881 went with his party to Khartoum, ultimately

has been translated into English. He died at Omdurman.

Oils

Oidium, a name given to the conidial form of various ascomycetous fungi (Erysiphaceæ) which give rise to what are popularly known as mildews and moulds. In this stage the white cobweb-like mycelia produce simple conidiophores, from which the conidia quickly germinate and grow in chains, covering the host as with a mealy powder. The life-cycle is completed in the autumn, when ascocarps, or perithecia, arise as small black points on the mycelium and produce spores which usually remain dormant through the winter and germinate in the following spring. In cases where the life-cycle is known the fungus is placed in its proper genus, but where the ascocarps are still undiscovered the use of the term generically is still adopted. See SPILEROTHECA Uncinula.

Oil and Petrol Engines, seeENGINES MOTOR CARS and

MOTOR BOATS

Oil-beetle, the name given to any species of Meloë, a genus of Cantharidæ (q.v.), on account of the oil-

like matter which it exudes. Oil-bird, see GUACHARO.

Oilcake, the richest and most concentrated of cattle foods, manufactured from oil-bearing seeds, after they have been crushed to extract some of the oil. The cakes in most common use in Britain are those prepared from linseed, cotton seed, and soya beans. Linseed cake contains from 10 to 12 per cent. of oil, and if fed in moderate quantities is the best stock food of its kind. Decorticated cotton cake is made from cotton seed after the husk has been removed, and is valuable for fattening bullocks and dairy cows. Undecorticated cot-ton cake, made from the whole seed, is generally given to cattle fattening upon grass. Soya-bean cake, a recent introduction, is valuable for all classes of stock.

Oil City, a city of Pennsylvania, U.S.A., in Venango co., at the mouth of the Oil Creek, at its junction with the Alleghany R., 52 m. S.E. of Erie. It is one of the chief oil centres in the The city has been three times partially destroyed by flood and fire. Pop. (1910) 15,657.

see Flooroloth Oilcloth. and

LINOLEUM. Oil Fish, see GOLOMYNKA.

Oil Fuel, see FUELS—Liquid Fuel. Oil of Vitriol, see Sulphuric Acid. Oil Rivers, see Nighr. Oils, Essential, see Essuntial Oils.

sacked in 1882, was dragged off with his companions to the Mahdi's camp. esters of the fatty acids (animal and Ho describes his experiences in Ten vegetable oils) or hydrocarbons Years' Captivity in the Mahdi's Camp. (mineral oils). In the former, the

substance is a fat or an oil at ordinary temperatures. Oils may be colourless to yellow, are not miscible with water, and have a specific gravity of less than 1, and will be considered here as (1) mineral or hydrocarbon oils, and (2) fatty oils. (1) Hydrocarbon oils are obtained either by the distillation of oil-bearing shales (Scotland) or from the petroleum of America, Russia, etc. The Scottish oils are mainly paraffins (q.v.), the Russian petroleum is composed chiefly of naphthenes, while the American petroleums consist of paraffins, with olefines and naphthenes. For commercial pur-poses, crude petroleum is distilled and fractionated. Thus are obtained colourless oils used as solvents (petroleum ether), cleaning oils and oils for varnishes, burning oils (kerosene) and lubricating oils. (See PETRO-LEUM.) These minerals are chemically more or less inert, and are un-affected by acids and alkalies at ordinary temperatures. (2) Fatty oils are obtained from animal fats and seeds of plants by pressure or extraction by volatile solvents. These fats and oils are chiefly composed of tristearin, tripalmiten, and triolein, and are easily decomposed to glycerol (q.v.) and the fatty acids (see FAT). They are soluble in ether, benzine, and chloroform, and are only slightly soluble in alcohol (except castor oil which is soluble). The fatty oils are divisible into three groups: (i.) Drying These when exposed to the air absorb oxygen and harden. oils are valuable as painting oils, e.g. linsed, poppy-seed, fir-seed, and Chinese-wood oils. (ii.) Non-drying oils are used for lubricating purposes. Such are butter, lard, tallow, olive, palm, whale, seal, and cocoanut oil, etc. (iii.) Semi-drying oils which are intermediate between (i) and (ii.) intermediate between (i.) and (ii.), e.g. rape, colza, castor, croton, and grape-seed oils. Boiled with caustic alkalies, fats and oils of this series undergo saponification, and are used in the manufacture of soaps (a.v.). Stearin is used in making candles, as also are palm oil and tallow. oil is used in medicine, while some of these fats and oils are used as foods, viz. butter, lard, and cocoanut oil and others as burning oils-colza and sperm oils.

Oil Ships, or Oil-tank Steamers, form one of the classes of vessels which are expressly built with a view to the requirements of a certain class of cargo, and can under ordinary circumstances be used for no other. As

relative proportion of solid and liquid carriage of oil, but the Vaderland, glycerides determines whether the which was probably the first steamship built to carry oil, was built by Messrs. Palmer in 1872. Another early steamship of this type was the Zoroaster, built in Sweden in 1877, in which the oil tanks were separate from the hull; later vessels were built in which the plating of the hull itself formed the tank. The size of oil steamships varies in accordance with the length of journeys required, etc. : for long journeys vessels of from 6000 to 12,000 tons are found to be the most economical. The Pinna is a good example, being 420 ft. long, 52 ft. broad, 22 ft. deep, and accommodating 9000 tons of oil in 12 large tanks formed by one longitudinal and soven transverse bulkheads. Several oil-tank vessels have of recent years been fitted with internal combustion engines instead of steam. It is important in vessels of this class that the free surface of the oil should be as small as possible.
Oil Wells, see BAKU and PENN-

SYLVANIA.

Ointment, a fatty substance of the consistence of butter, generally containing some medicinal agent, and intended to be applied to the skin for curative purposes. The fatty basis may be any substance sufficiently plastic, without any injurious action on the tissues and not liable to putreon the tissues and no habite to putter faction; that most generally used is purified lard with an admixture of wax, the usual proportion being 80 parts of lard to 20 of wax. A harder ointment, used for conveying liquid antiseptics, is made up of 4 parts of solid paraffin, 1 of wool fat, and 5 of liquid paraffin. A soft cintment base in general use consists of 11 parts of solid paraffin, 5 parts of lanolin, and 34 of liquid paraffin.

Oise: 1. A dept. in the N. of France, is bounded on the E. by the dept. of Aisne, and on the W. chiefly by that of Seine-Inférieure. Area 2272 sq. m. Pop. 411,028. It produces on improve quantity of produces of improve quantity of the produces of the produce 2272 sq. m. Pop. 411,023. It produces an immense quantity of vegetables. Cap. Beauvois. 2. A riv. of France, an affluent of the Seine, rises in the N. of the dept. of Ardennes, and flows S.W., joining the Seine at Conflans-Sainte-Honorine after a course of 150 m., for the last 75 of which it is navigable.

Oita, see OSSIAN.
Oita, a seanort tn. of E. Kinshiu Is.

Oita, a seaport tn. of E. Kiushiu Is., Japan, 100 m. from Nagasaki. Silk yarn is produced. Pop. 15,000. Ojibways, or Ojibbeways, see Chip-

PEWAYANS.

Oka: 1. A riv. of Siberia, Asiatic Russia, rising in the Sayan Mts. between China and the gov. of Irkutsk, and flowing N.E. through early as 1863 there appear to have between China and the gov. of been sailing ships on the Tyne with Irkutsk, and flowing N.E. through specially constructed tanks for the a wild mountain region for a course of

2. A riv. in Central Russia, rising in the gov. of Orel, and flowing many windings in a N.E. direction, for a course of about 900 m. in all, to join the Volga at Nijni-Its basin has an area of Novgorod. about 120,000 sq. m., and the traffic on it is very considerable, over 2,000,000 tons of corn, salt, metals, timber, etc., being loaded annually for

shipping in the river-ports of its basin. Okapi, the native name of the species of Giraffidæ discovered by Sir Harry Johnston in 1901 in the Semliki Forest, Belgian Congo; it is known technically as Ocapia john-This giraffe-like animal differs from its allies in having a rather short tail, a short, thick neck, no external horns, but vestiges of horns are to be found on the frontal bone. The coloration of the O. is curious, and the limbs bear long dark stripes. the back and sides are reddish-brown, while the limbs and part of the head are of a creamy colour. Very little is known of the habits of the O. beyond that they live in pairs in dense forests.

Okayango River, see Cubango. Okayana, a tn. of Honshiu, Japan.

cap. of prefecture of same name, 72 m. W. of Kobe. Has a fine castle and beautiful gardens. Pop. 95,000.

O'Keefe (O'Keeffe), John (1747-1833), an Irish dramatist and actor, whose plays enjoyed considerable popularity in London. They include comedies and farces such as The Agreeable Surprise, 1781; Wild Oats, 1791; The Poor Soldier; and Modern Intiques. He wrote the popular! song I am a Friar of Orders Grey.

Okefenokee (Okefinokee, Okefonoko) Swamp, a large tract (c. 300 sq. m. in area) of S.E. Georgia, U.S.A., mostly in Charlton and Ware counties, just touching N. Florida. It is mostly cypress forest, haunted by alligators

and venomous snakes.

Okehampton, a municipal bor. and market tn. of Devonshire, England, 21 m. W. of Exeter, on N. margin of hartmoor, at the junction of the E. and W. Okement. There are picturesque ruins of a late Norman keep and of O. Castle. Pop. (1911) 3175. Oken, Lorenz (1779-1851), a German naturalist, born at Bohlsbach.

Swabia. His real name was Oken-In 1802 he published a work fuss. entitled Grundriss der Naturphilo-sophie, der Theorie der Sinne, und der darauf gegründelen Classification der Thiere, first of a series of works of the In 1828 he was aprame nature. pointed professor at Munich, and four

about 400 m., to join the Angara at | Pacific in the East of Siberia, named after the seaport of the same name, which was formerly a place of considerable trade. It is partly enclosed by Saghalien and Kamchatka. November to April it is icebound, and fogs and storms are common. Its principal ports are Nikolaievsk, Okhôtsk, Ayan, and Gizhiga.

Okhrida, Okhrid, or Orid, a tn. of Albania in European Turkey, 28 m. W. of N. Monastir. The former cathedral is now a mosque, and the population, numbering in all about 18,000, comprises Christian Servians, hammedans, Albanians.

Osmanli, etc.

Oki Islands, a group of islands lying N. of the prov. of Izumo, and a Japanese possession. There are, in all, four islands, Dogo being the largest; chief town, Saigo. The group has a coastline of 182 m., and covers an area of 130 sq. m. Pop. 63,000.

Okinawa Sima, see Loo-CHOO.

Oklahoma (a Choctaw Indian word meaning 'red people'), a south-central state (admitted 1907) of the U.S.A., bounded on the N. by Colorado and Kansas. Area 69,414 sq. m. The surface is principally an upland prairie, and large portions are very fertile, though others are bare and arid. It is well watered by the Red and Arkansas rivers, with their affluents. The chief mountain ranges are the Wichita Mts. in the southern part of the state: the Chautauqua Mts. in the central portion, and the Ozark Mts., extending half-way across the state. principal rivers are the Arkansas Canadian, and Red, with their several tributaries. O. is noted for its diversity of crops; corn, cotton, wheat, oats, maize, potatocs, etc., being ex-tensively cultivated. The first-named represents over two-thirds of the acre-The state also posage and value. sesses an abundance of fine timber. Petroleum, coals, rock-asphalt, limestone, and gypsum are found, the value being \$12,678,416. The principal manufs, are those closely allied with agriculture. The chief cities are Guthrie (cap.), 11,654; Oklahoma Clty, 64,205; Muskogce, 25,278; Tulsa, 18,182; Shawnee, 12,474; and Chiekasha, 10,320. A part of the state is occupied by Indian reservations. Pop. (1910) 1,657,155. Oku, Yasukata. Count th. 18473. of the total mineral product for 1911

Oku, Yasukata, Count (b. 1817), a Japanesesoldier. Hoentered thearmy in 1871, and in 1877, during the Satsuma Rebellion, led the imperial forces, and was besieged for four months in Kumamoto Castle. In 1895 he distinguished himself in the years later at Zürich. See Memoirs China-Japan War, and was rewarded by Ecker (1880) and Güttler (1884), with the title of Baron for his services. Okhotsk, Sea of, an inlet of the N. In the Russo-Japanese War of 1904-5 army, and won the victory of Kinchau, for which he was decorated and promoted to the rank of Count. From 1906-12 he was chief of the general staff.

Olacaceæ, a natural order of trees and shrubs, with alternate and often spiny or thorny leaves. The typical genus is Olax, which includes a number of evergreen climbers, natives of Asia and Australia, bearing small

flowers in spikes.

Olaf I. (Olaf Tryggvesen) (969-1000), King of Norway and son of Tryggve. On being proclaimed king, Trygye. On being problems and, he set about the conversion of the country to Christianity, built the first churches, and founded the see of Nidaros, later Trondhjem. He entered into quarrels with both Sweden and Denmark, and finally met his death off the island of Svöld, near Rügen, where he was waylaid and defeated by the combined Swedish and Danish fleets. After his death he

remained the hero of his people.
Olaf, the Saint (995-1030), a revered
early Norwegian king. He wrested
the throne from Eric and Svend Jarl in 1015, and then endeavoured to terminate paganism with severity, which caused his subjects to seek protection O. was, in the territories of Knut. however, dethroned by Knut in 1028, but in 1030 he returned with 4000 men and gave Knut battle at Stickle-

stadt, where O. was defeated and slain. O. was proclaimed patron saint of Norway in the succeeding century. Oland, see OELAND.

Olaus, Magnus, see Magnus. Olaus, Petri (1493-1552), a Swedish reformer. From 1525, with his brother Laurentius, he laboured to spread doctrines throughout Lutheran They also translated the Sweden. Bible into Swedish. From 1531-33 O. was chancellor to Gustav Wasa, and preacher at Stockholm (1539). He was condemned to death (1540) for refusing to reveal a plot about which he had learnt through the confessional, but was pardoned and allowed to continue as pastor at Stockholm (1543). He left writings on religious subjects, a mystery play, and Svenska krönika (see ed. of 1860). Strindberg treated (see ed. of 1860). Strindberg treated his life dramatically. See also Schück, Olavus Petri, 1893.

Olax, the typical genus of the order Olacaceæ, consists of about thirty shrubs and trees inhabiting tropical regions of Asia, Africa, and Australia. The species are smooth evergreens, and have a disagreeable odour. O. Zeylanica is the malla-tree of Ceylon, the leaves of which form an ingredient

of curry.

Olbers, Heinrich Wilhelm Matthäus (Matthias) (1758-1840), a German phy- and as morally entitled to look for a

he was in command of the second sician and astronomer, studied medicine at Göttingen (1777-80). His new method of calculating the orbit of comets, set forth in Abhandlung über die leichteste und bequemste methode die Bahn eines Kometen zu berechnen (1797, 1864), won him fame. He discovered the asteroids Pallas (1802) and Vesta (1807), and the O. comet of 1815. See Gesammelte Werke (Schilling's ed., 1894-1900, 2 vols., and a 3rd later vol.): Erman, Briefwechsel zwischen Olbers und Bessel, 1852; Barkhausen, Biographische Skizzen Verstorbener Bremischer Aerzte, 1844.

Olcott, Henry Steel (1832-1907), an American theosophist and agriculturist. He was agricultural editor of the New York *Tribune* (1858-60), and special commissioner in the U.S. war and navy departments (1863-66). He helped to found the New York Theosophical Society, becoming its president (1875). O. edited the maga-zine *Theosophist* (1879-1907), and for his services to Hindu philosophy received the sacred thread of the Brahman easte. His works include Sorgho and Umphee, 1857; People from the other World, 1875; Theosophy, Reli-gion, and Occult Science, 1885; Old Diary Leaves, 1895-1904; Esoleric

Buddhism.

Old Age Pensions. The English O. A. P. scheme is unique in that it does not rest upon either voluntary or compulsory contribution on the part of the recipients of pensions. It is thus a purely socialistic system, the moral justification for which is that it is a social crime that many aged and deserving persons who may well have spent their whole lives in unremitting toil should find their sole hope of sub-The insistence in poor law relief. herent vice of a contributory system, apart from the fact that it constitutes an insurance and not a pension scheme at all, is that very few people of those who are now in receipt of pensions could possibly have set aside from their exiguous earnings anything by way of provision for old age. But the merit of a properly administered free pension scheme can be put on the still higher moral ground that far from being a mere object of pity and charity, an aged and penniless person who has worked as continuously as his opportunities would allow is a person to whom the state as representing society is really under some sort of obligation. It is true that from one point of view an O. A. P. of an amount varying from 1s. to 5s. a week may be looked upon as a form of out-door relief; but the stigma of the charitable dole at once disappears if it be conceded that an aged and indigent worker is a servant of society,

annuated civil servant.

The question of O. A. P. had been in the air for some time before the passing of the Act of 1908, and not only were various proposals submitted to the Royal Commission on the Aged Poor, which sat in 1895, but the different recommendations of the Commission formed the subject of several bills in parliament, which were considered by parliamentary committees in 1899, 1900, and 1903. The apparent dilatoriness of the legislature was due to a variety of causes, the chief of which were the preoccupation of parliament in the Boer War and the protracted discussions over the principle of contribution. More-over legislative experiments in one country are bound to have their effect upon other countries; and with the fact before them that the O. A. P. systems in vogue in New Zealand, Denmark, New South Wales, Victoria, and Germany rested upon a contributory basis, voluntary or com-pulsory, the House of Commons can hardly be blamed for having pro-ceeded with coution. Mr. Asquith, in introducing the Budget of May 1908, pointed out that the social and economic conditions of the United Kingdom differed so much from those in countries like Denmark and New Zealand, that great circumspection should be exercised in proceeding upon lines which might not only admit subsequent development, but the experimental nature of which might well commit parliament 'to a mortgage of indefinite amount upon the resources of the future country, estimated with reasonable accuracy. As a fact, the estimated cost of £7,440,000 for providing pensions to persons over 70 was under the mark, forthe costin 1911-12 was £12,450,000, and the estimated cost for the present financial year (1912-13) is £12,220,000 (though from these amounts must be deducted about £1.144,000 representing the saving to the rates consequent on the automatic removal in 1911 of the pauper disqualification for old age pensioners).

Up to 1903 the scheme put forward by Mr. Chaplin's committee in 1899, and practically adopted by the Select Committee of 1903, was the only one (if any) which under a Conservative government would probably have passed into law. That scheme was a contributory one, and though some of its proposals were adopted by the Liberals in 1906, its root-principle of contribution was blown to the winds by Mr. Lloyd George's (Chancellor of the Exchequer) arguments that any

pension from the state as a super-jeally exclude women altogether, apart from the fact that the majority of working men cannot 'deflect from their weekly earnings a sufficient sum of money to make adequate provision for old age, in addition to that which they are now making for sickness, infirmity, and unemployment, The age limit, too, was a thorn in the side of departmental committees. Most of the schemes, an that consid limit at 65 · · · is fixed by the state of t

ber of pensioners would be reduced by nearly 44 per cent., which on the estimated figures would have meant 387,000 old age pensioners. The actual number of pensioners in Great Britain at December 1911 was 935,990, and in March 1912, 942,160, or about 1 person out of every 44 of the total opulation. The great majority of these were in receipt of the full pension of 5s., those in receipt of lesser sums being for all practical purposes a negligible quantity. It is obvious from these figures that the fears of the different committees were not groundless. But, indeed, no one at all conversant with poor law statistics could have failed to appreciate the fact that the cost would be heavy, for of the entire population of 65 years and upwards in the United Kingdom more than one-quarter were (1899) in receipt, or had been in receipt, of poor law relief. There can be but little doubt that if all persons unless the cost of the initial step were of 70, a fortiori 65, years of age were rdless of 'ry would

> oportion within limits, is a bar, though moralists of a Tolstoyan bent of mind would be prompted to say at once that most criminality is the result of poverty However that may be, a itself. sceptical and cautious British House of Commons has in characteristic fashion evolved in the Acts of 1908 and 1911 a scheme of a more or less tentative nature, and one which at least has the merit of effecting a practical compromise of the multitude of conflicting opinions on a difficult subject.

bear the

n below. btaining

Statutory conditions for obtaining pensions, and disqualifications.—(1) The claimant must have attained the ago of 70. (2) Must for the last 20 years before receiving the pension have been a British subject, and for contributory scheme would practi- 12 of these 20 years have resided in

United

Kingdom (residence abroad in the service of the crown, temporary absence not exceeding 3 months at any one time, all periods spent abroad by any person during which he has maintained or assisted in maintaining any dependent in the United Kingdom, absence on board a registered British ship, and residence in the Channel Is. or the Isle of Man by a person born in the United Kingdom, are all regarded as residence in the United Kingdom for the purposes of the Act). Under the Act of 1908 women who married aliens were disqualified; but the Act of 1911 provides that if the alien husband be dead, or the marriage has been dissolved, or the woman legally separated from, or deserted by, the alien hus-band for 2 years, the woman will not be disqualified for a pension. Must satisfy the pension authorities that his yearly means do not exceed 231 10s. A claimant is disqualified (1) while actually in receipt of poor law relief other than medical relief or surgical assistance (including food or comforts) supplied by or on the re-commendation of a medical officer. It is now no disqualification that the claimant prior to the date of receiving his pension has been chargeable to the guardians. Claimants are not disqualified by reason of poor law relief being given to a wife or other relative whom they are bound to maintain; but if children contribute towards the relief of their parents through the parish this will disqualify the parents from receiving a pension, because children are not bound to maintain their parents. (2) If he has habitually failed to work according to his ability, opportunity, and need, either for the maintenance of himself or those legally dependent upon him. But if he has made provision for 10 years up to attaining the age of 60 against sickness or unemployment, by means of payments to friendly or other societies, he cannot be disqualified on the ground of 'failure to work.' It is the better opinion that no proof short of a conviction under the Vagrancy Acts would be sufficient evidence of habitual failure to work.' (3) While (3) While he is detained in a lunatic asylum either as a pauper or a criminal lunatic. (4) For 6 months, if after attaining 60 years of age he has rendered himself liable to have a detention order made against him under the Inebriates Act, 1898. (5) During imprisonment for any offence, and for 2 years afterwards where the sentence was without the option of a fine and did not exceed 6 weeks; where the sentence exceeded 6 weeks, the subsequent period of disqualification is 10 years.

The rate of pension per week where the yearly means of the pensioner as calculated under the Acts of 1908 and 1911 do not exceed £21 is 5s.:

Yearly in-	But does	Allowance
come exceeds	not exceed	per week
£ s. d. 21 0 0 23 12 6 26 5 0 28 17 6 31 10 0	£ s. d. 23 12 6 26 5 0 28 17 6 31 10 0	s. d. 4 0 3 0 2 0 1 0 pension.

Calculation of yearly means.—In calculating the annual means of a claimant for a pension, account will be taken of the following items: (a) Five per cent. on his capital in any shape or form (in the words of the Act of 1911, 'one-twentieth part of the capital value of any property belonging to him ') and whether that capital be invested or not; (b) the cash income he may reasonably expect during the succeeding year (exclusive of O. A. P., interest on investments, and sums accruing from the profitable use of property not personally used by him): this, in the absence of other evidence. will be taken to be the income actually received during the past year; (c) the yearly value of any benefit or privilege (e.g. an easement (q.v.), fuel allowance, right of common (q.v.)); (d) the yearly value of any property in his personal use, furniture and personal effects to the value of £50 being ex-cepted. The actual practice according to the instructions issued to the pension officers seems to be to assume income from furniture personal effects to be 4 per cent. on the value of the excess over the £50. In estimating the value of free board and lodging, the standard of living of the person with whom the claimant lives will be taken into consideration; and this, in towns, is generally taken to be about 5s., in rural districts 3s. 6d., a week; in Ireland, 4s. and 2s. 6d. respectively. The basis of assessment of property capable of investment is the income that might be derived from it if it were invested; but a claimant is not bound to convert his capital into an annuity, and his income must not be estimated on the assumption that he ought to do so. In the case of married couples, the income of each is reckoned at half the combined income of the couple. Under the Act of 1908, if it appears that the claimant has directly or indirectly deprived himself of any income or property in order to qualify for an O. A. P., or in order to get a higher rate of pension than he otherwise would be entitled to, such income or property will nevertheless be taken to be part of his means.

Mode of applying for pensions— Pension committees.—The authority

There are some 280 of such committees, and some 1200 sub-committees appointed by the former to act for specified districts. The form of claim for a pension may be obtained by the claimant free of charge at any post office at which he desires the pension to be paid to him. When filled up the form is to be delivered by the claimant either to the postmaster or the pension officer of the district. give postmaster must claimant all the assistance he can in cases of doubt. The pension officer is appointed by the Treasury, and is the Local Officer of Excise, or the Supervisor of Inland Revenue. His function is to investigate the claims sent in. and to report on them to the Pension Committee, which body then investi-gate the claims themselves and give their decision upon them. Before deciding adversely on a claim, they give the claimant an opportunity of being heard in support of his applica-There is an appeal from the Committee's decision to the Local Government Board. Where the pension is allowed the pension officer gives the pensioner a book of pension orders enabling him to get payment at the post office. The Act of 1911 provides that a question may be raised at any time during which a person is drawing a pension as to whether he is properly qualified, or whether his means are such as to entitle him to payment at a particular rate. If a later decision of the Committee reverses a former decision, so as to give the pensioner a lower rate or no pension at all, he will not, in the or no pension at air, is will not, in the absence of fraud on his part, have to repay any sums received by way of pension. Conversely the Committee may at any time decide to give a higher rate of pension to a pensioner if his circumstances have so changed as to warrant the higher rate. A person who knowingly makes false statements for the purpose of obtaining or continuing to obtain a pension, either for himself or any other person, renders himself liable to imprisonment not exceeding 6 months with or without hard labour.

Statistics.—The estimates for 1912-13 provide for the payment of £65,000 expenses of pension committees, and £417,346 expenses of government de-partments in the administration of the Acts. At the end of March 1912, the number of old age pensioners in England and Wales was 642,524, and in Scotland and Ireland 299,636, there being double as many in Ireland as in Scotland. Compared with total

for dealing with claims is the Local Wales about 18 pensioners out of Pension Committee appointed by the every 1000 people; in Scotland, 19 borough county or district council, per 1000; in Ireland 46 per 1000.

Old Bailey, the name of a street in the City of London and commonly applied to the Central Criminal Court (q.v.). The street, which is one of the most ancient parts of London, is situated in the City liberty of St. Sepulchre's and parish of Smithfield: but neither street nor court bears the slightest resemblance to the older street and tribunal of the same name. The district itself, even if ever to be associated with the horrors of public executions and the evidences of early notions of criminal justice, boasted trees and water some 700 years ago, at a time when the neighbourhood had even then for long been a place of the dock and gallows. For we are told that in Cow Lane there was formerly a large pool called Smith-field Pond, or the Horse Pool, and to the S.W. of this stood the gallows or public place of execution, which with naif irony was denominated the Elms. from the great quantity of such trees growing in that neighbourhood. Smithfield's rural simplicities, however, soon yielded to streets and large wooden buildings, and the gallows were moved further W. The O. B. itself was, according to antiquaries, a corruption of Balchill, an eminence on which stood the Bale or bailiff's house, wherein was held a court (called by Stow 'the court of the chamber-laine,' see Survey of London, 1603) for the trial of malefactors. Later antiquaries think this view probable from the fact that for centuries some such court was held in the O. B. or street outside Newgate, and that up to the end of the 18th century there was a hold called the Balc-dock where the sheriffs detained prisoners during the sessions. The O. B. and its environment was for years a most in-sanitary place, for we are told by Stow that 'a little lower in the O. B. (i.e. in the direction of the river) there was a large cistern with divers cocks which received the waste water of the prison of Ludgate for the use of the neighbouring inhabitants. Newgate became early the common gaol for London and Middlesex, and the became early the common gool for London and Middlesex, and the sessions at the O. B. have from time immemorial been held under the commission of gool delivery (q.v.) for Newgate, and of over and terminer (q.v.) for the City (see Chyrral Crimmal Court). Up to 1906 the sittings of the Central Crimmal Court ware bedd in the old court between were held in the old court-house, or the O. B., but a handsome new building designed by E. W. Mountford replaced the old premises in that year, and now occupies practically the population, there are in England and whole site of what once was Newgate

New Bailey, is lofty and imposing, and over a great part of the vaulted are brilliantly coloured frescoes.

Old Believers, see RASKOLNIKI.

Oldbury, a tn. of Worcestershire, England, 5 m. W.N.W. of Birmingham. It has iron and steel industries, chemical, aluminium, brick and tile works, and railway shops. (1911) 32,240.

Old Calabar, see CALABAR (2).

Old Castile, see Castile. Oldcastle, Sir John, Lord Cobham (d. 1417), an English nobleman of Herefordshire, who helped to sup-press the Welsh rising under Owen Glendower, and then fought for Henry IV. in France (1411). As a supporter of the Wycliffites or As a supporter of the Wycliffites or Lollards, he was condemned as a heretic by Archbishop Arundel (1413), but escaped to Wales. He was captured later and burnt to death. O. wrote Twelve Conclusions . . ., and other works. He is supposed to be the original of Shakespeare's Falstaff.

Shakespeare

d Spedding, ilt Fasciculi

Fasciculi

Foxe, 4cts
and Monuments of the Church, 1562, 1841; Gapsey, Life and Times of the Good Lord Cobhan, 1844; Brown, The Leader of the Lollards, 1848.

Oldenbarneveldt, Jan van (1547-

1619), see Barneveldt. Oldenburg, a grand-duchy of Northern Germany consisting of three distinct and widely separated territories, viz. Oldenburg Proper, the principality of Lübeck, and the principality of Birkenfeld. The collective area of these districts is 2482 sq. m., and the total pop. is 483,042. Oldenburg Proper is bounded on the N. by the German Ocean, on the E. S., and W. by the kingdom of Hargary. kingdom of Hanover. The principal rivers of O. are the Weser, the Jahde, and the Haase, Vehne, and other tributaries of the Ems. The country is flat, belonging to the great sandy plain of Northern Germany. Agri-culture, bee-keeping, and the rearing of cattle constitute the chief sources of wealth. There are numerous distilleries, breweries, and tan-yards, and the manufacture of tobacco, bricks, and corks is carried on. Oldenburg is the cap. Pop. of Oldenburg Proper, 391,246. The principality of Lübeck is surrounded by the duchy of Holis surrounded by the duchy of Holstein, and is situated on rivers
Schwartau and Trave. Area 140
sq. m. Pop. 41,300. The cap. is
Ettin. The principality of BirkenIt bread is essential, and no dog
suffers more tnan rour days old. Exercise for
this breed is essential, and no dog
suffers more from being kept chained
intelligence of typical specimens of
the breed are related, and they are
feld lies S.W. of the Rhine, and between Rhenish Prussia and Lichtenor as companions and house dogs.

prison. The interior of the new court, berg. Its area is 192 sq. m., and its which has sometimes and without pop. 50,496. The polishing of stones, regard to history been termed the more especially agates, constitutes New Bailey, is lofty and imposing, one of the chief sources of industry. O. is a constitutional ducal monarchy, hereditary in the male line of the reigning family. It is represented by three members in the Imperial Diet, and has one vote in the Imperial Federal Council. The territory was in ancient times occupied by the Teutonic race of the Chauci, who were subsequently merged with the more generally known Frisii, or Frisians. In 1180, the Counts of O. and Del-menhorst succeeded in establishing independent states from the territories of Henry the Lion, which fell into a condition of disorganisation after his downfall. This family has continued to rule O. to the present day, giving, moreover, new dynasties to the kingdom of Denmark, the empire of Russia, and the kingdom of Sweden.

Oldenburg, Henry (1626-78), a natural philosopher, born at Bremen. He gained the friendship of Milton, Spinoza, Leibnitz, Bayle, and other eminent scientific men, who founded the Royal Society of London, and in 1662 was appointed first secretary to same. From 1664 he began publishing its Transactions, and continued to act as editor for more than thirteen years. He wrote various pamphlets, both of a political and theological nature; Latin translations, and corresponded with the great scientific thinkers of France and Germany.

OldEnglish, see ENGLISH LANGUAGE. THE, and ENGLISH LITERATURE.

Old English Sheep Dog ('Bobtail'), formerly much used, and developed to a high degree of intelligence, by shepherds and drovers in the southern counties of England and Wales, but now a favourite show dog. The hard, shaggy coat should be free from curl. and have a dense waterproof undercoat. Its colour may be any shade of grey, grizzle, blue, or blue merle, with or without white markings. The head should be big and square with a long, strong law, black nose, and small eyes: the ears should be small and covered with wavy hairs. The forelegs are with wavy hairs. straight, and the feet small and round. The body should be square and short. and the hind quarters high and heavy. The tail ought to be absent naturally, and pupples that are born with one should be docked when not more than four days old. Exercise for

Kennel Club's abolition of cropping became very rare, in spite of the fact that it is the only English terrier so called. The head should be long, narrow, and flat, with a sharp tapering muzzle, muscular jaw, pronounced stop, and black nose. The eyes should be small and black, set fairly close together; the ears, formerly prick, should be round and flat. rather long neck should be muscular; the forelegs straight, and the thighs comparatively large and muscular. The whip tail should be carried low. The coat must be close, hard, short, and glossy, and pure white-colours such as blue not being favoured. ideal weight is between 10 and 15 lbs.

Oldesloe, a tn. of Schleswig-Hol-stein prov., Prussia, on the Trave, 13 m. from Lubeck. There are saline, sulphur, and other baths near.

3905.

Oldfield, Anne (1683-1730), commonly known as 'Nance,' an English actress, born in London. She made her début in 1700, and immediately gained popularity. In 1704 she played the part of Lady Betty Modish in Cibber's Careless Husband. She was the original representative of some 65 characters in tragedy and comedy, and soon came to be recognised as one of the most brilliant nised as one of the most brilliant actresses of the day. Her chief auccesses were 'Lady Townley,' Sylvia,' 'Mrs. Sullen,' and 'Sophonisba.' See E. Robins, The Palmy Days of Nance Oldfield, 1898.

Oldforge, a bor. and township of

co., Pennsylvania, Lackawanna U.S.A., on Lackawanna R., 4 m. S.W. Scranton. Anthracite coal mined; glass, silk, chemicals, and fertilisers are manufactured.

(1910) 11,325.

Oldham, a parl., municipal, and co. bor. of Lancashire, England, 6 m. N.E. of Manchester. The town is mostly situated on a hill, and its growth as a manufacturing centre now gives it quite a modern appear-This growth is principally due to the close proximity of the Lanca-shire coalfields and the extension of cotton manufactures, dating from the latter half of the 18th century. Its principal buildings are a town-hall, Westhulme hospital, art gallery and museum, central free public library, blue-coat school, etc. The Alexandra park was opened in 1865. Oldham manufactures fustians, velvets, cords, It has large foundries, machine-works, and collieries in the Pop. (1911) near neighbourhood. 147,495.

Old (or White) English Terrier, an Moyne, near Tetbury, Gloucester-old terrier breed; which after the shire. He was a favourite with the Earl of Kingston, the Earl of Rochester, Sir Charles Sedley and other wits. and gained the friendship of Dryden. O.'s reputation rests chiefly on his satires—he took Juvenal for his model, and though his works partake of the licentious sentiments of the time, they are full of force and spirit, and are original in their dramatic setting. He published Poems and Translations in 1683, and Remains in Verse and Prose appeared in 1684. The best edition of his works is The Compositions in Prose and Verse (1770), with memoir and explanatory notes by Edward Thompson.

Oldhamia, the generic name applied to several fossils found in the Cambrian system. Considerable doubt exists as to their meaning, and it is not known whether they are fossil forms of algæ, of zoophytes or polyzoa, or even whether they are fossils

at all.
Old Haven Beds, see Eccene.

Old Meldrum, a par. of Aberdeen-shire, Scotland, 16 m. N.N.W. of Aberdeen. It has cotton manufactures and distilleries. Pop. (1911) 1200.

Oldmixon, John (1673-1742), an English historian and minor poet. He wrote dull histories on the British Isles and America: The British Empire in America (1708); Secret History of Europe (1712-15); Critical History of the Stuarts; poems and plays, works of rhetoric and logic, and Essay on Criticism (1728), abusing Pope and others. Pope took revenge in the *Dunciad*, ii. 283-90, and in the Art of Sinking in Poetry. See his Memoirs of the Press (1742); Cibber, See his Lives of the Poets; Baker, Biog. Dram.

Old Point Comfort, a watering-place of Elizabeth city, co. Virginia,

U.S.A., at the mouth of James R. Old Red Sandstone, the name given to the succession of sandstones, shales, and thin bands of concretionary limestones which lie between the Silurian and Carboniferous rocks. These rocks were laid down in isolated basins or lakes to the W. and N. of Europe. To the S., marine conditions pre-vailed, and thus two types of strata comprise this geological system, viz. freshwater or lacustrine deposits (the O. R. S. proper) and marine deposits Devonian. Distinctive have been given to the basins in which these O. R. S. rocks were laid down, viz. Welsh Lake, Lake Caledonia, Lake Orcadie, Lake Cheviot, Lake Lorne, and Lake Munster. The 47,495.
O. R. S. attains a thickness of about 20,000 ft. in Scotland, and is subatirist and poet, born at Shipton divided into Lower, Middle, and Upper

groups. Enormous masses of con-temporaneous felsitic, andesitic, and of water from March to September, diabasic lavas and tuffs are found in and a temperature of about 70 deg. the O. R.S. of Central Scotland, giving origin to the Cheviots, Pentland Hills, Sidlaws, and Ochils. The fauna of the period is remarkable for its fishes, such as Palæospondylus, Coccosteus, Dipterus, and Holoptychius. Giant Crustaceans and a few marsh plants (Psilophyton) are also found. In Norway, N. Russia, and Spitzbergen O. R. S. rocks occur with typical fisher and plant remains, and the O. R. S. o. N. America (New Brunswick) yields plant remains and occasional seams

Old Testament, see BIBLE.

Oldrown, a tn. of Penobscot co., Maine, U.S.A., on an island in Penob-scot R., 10 m. N.N.E. of Bangor. There are lumber mills and manu-factures of boots and shoes, woollens, boats, and electrical machinery. Pop. (1910) 6317.

Oldys, William (1696-1761), a literary antiquary and miscellaneous He became librarian to Lord writer. Oxford, a post he retained for about ten years, and through the influence of the Duke of Norfolk he was ap-pointed Norroy king-at-arms. Be-sides numerous miscellaneous literary the author of the

Life of Sir Walte

BritishLibrarian, Spectator, The Harleian Miscellany. He also wrote several Lives in the Biographia Britannica and General Dictionary. See Memoir by Yeo-well in Notes and Queries (1862, first two months).

Oleaceæ, a natural order of trees and shrubs, of which Olea (Olive) is

the typical genus.

Olea Europæa, see OLIVE.

Olea Europæa, sec Jan. Olean, a th. of Cattaraugus co., New York, U.S.A., on Alleghany R., 60 m. S.S.E. of Buffalo, rich in oil and natural gas. Glass, leather, and machinery are manufactured. (1910) 14,745.

Oleander (Nerium oleander), a handsome evergreen shrub with fragrant flowers, rather like carnations, of various shades of pink, red, and white; one of the most easily grown green-house plants. Its large, willow-like leaves when bruised have a powerful and disagreeable odour, and poisonous to human composition poisonous to human composition animals. The physiological effects are similar to those of digitalis.

Oleandra, a genus of evergreen tropical ferns, with creeping shoots, jointed stems, and entire, lanceolate or strup-shaped fronds. They are grown in the stovehouse in hanging baskets or on pillars and walls in a layer of sphagThe rest of the year a temperature of 60 deg. and moderate watering is sufficient.

genus of evergreen Olearia, \mathbf{a} flowering shrubs, bearing in summer a profusion of daisy-like flowers as well as ornamental foliage. O. haastii is the New Zealand Daisy Bush, and is

horders and

hardiest species.

Olearius, or Oehlschlager, Adam (c. 1600-71), a German traveller, born at Aschersleben, in Prussia. He 'acted as secretary to an embassy sent by the Duke of Holstein to Russia and Persia. On returning from this mission, he was made librarian and keeper of the Duke's museum. O. was also a mathe matician and author. He published several works, the most noteworthy being a Chronicle of Holstein and Travels.

Oleaster, a name which often leads to confusion, as it is applied to the true wild olive (Olea Europea), and also to the unrelated genus Elwagnus. comprises evergreen and deciduous and bibliographical articles, he was trees and shrubs, with ornamental and

variegated foliage, and e or yellow fragrant, deli-... rs, which are rich in honey, and which are followed by decorative

edible berries.

Olefiant Gas, see ETHYLENE.
Olenek, a riv. of Yakutsk prov., E.
Siberia, rising from two branches
under the Polar circle and flowing N. into the Arctic Occan. 70 m. from the Lena's W. mouth. Length 1000 m.

Ust-Olensk vil. is at its mouth. Ost-Olensk vit. is at its mouth.
Olenia, the iterative of the croady
of its distance the control of the control
fan its Olenia to the control
fan its Olenia the eleven to eighteen thoracic seg-They are found most comments. monly in the Upper Cambrian rocks.

Oleomargarine, see MARGARINE.
Oleron, Isle of, an island of the Atlantic Ocean, off the coast of France, and part of the dept. of Charente-Inférieure. Its maximum length is 18 m., breadth 7 m., and it covers an area of 66 sq. m. The surface is generally fertile, and it produces corn and wine. It has two towns, Château and St. Pierre, Pop. 17,800.

Oléron, Judgments of, a code of mari-time laws in use in W. Europe during the middle ages. It is said o have been originated by Eleanor, Duchess of Guienne, mother of Richard I. of num or peaty soil held in place by a | England, towards the middle of the

12th century, at Óléron, part of the tively. In the Paris basin the system duchy of Aquitaine, which came into is represented by lacustrine marls the possession of the French crown in with the gypsum of Montmartre form-1370, and to have been introduced into England in the reign of Richard I., with some amendments and additions.

Olga, St. (d. 969), the wife of Igor, prince of Kiev. On his death in 945, she ruled for ten years as regent for her son Sviatoslav. In 955 she was baptised at Constantinople, and was after her death canonised in the Rus-

sian Church; her day being now commemorated on the 11th July.

Olibanum (Gk. $\lambda \beta \alpha \nu \sigma s$, frankincense) is a gum-resin yielded by various species of the genus Boswellia, found in Somaliland. The gum is obtained by making incisions in the stem, and on account of its fragrance

is used in incense.

Olifant's River: 1. A riv. of S.E. Africa, in the Transvaal, which rises under the name of the Rhenoster to the E. of Pretoria, flows N.E. and then E., and finally joins the Limpopo in Fortuguese ter. 2. A riv. of Cape of Good Hope, which flows W. along the base of the Zwarte-bergen, then S., and joins the Groote to form the Gouritz. 3. A riv. in the W. of Cape of Good Hope, which flows N.W., then S.W., and enters the Atlantic Ocean on the W. coast.

Oligarchy (Gk. ολιγαρχία), 'the government of the few,' was the name given to that form of constitution amongst the ancient Greeks where a portion of the community were in possession of power, e.g. the governments of Thebes, Megara, and Corinth. At the present time it corresponds with the term 'aristocracy,' but in ancient times, although it was acknowledged that an 'aristocracy' often developed into an O., the two were distinguished, 'O.' signifying the government of the wealthy, who were looked upon as directing their efforts towards their own aggrandisement and the maintenance of their own power and privi-leges, while 'aristocracy' meant the rule of the really best people for the public good.

Oligocene System, the geological epoch which elapsed between Eocene and Miocene time. In Britain the Oligocene formations are only met with in the Hampshire basin, where they consist of thin-bedded sandstones, clays, marls, and limestones, known collectively as a Fluvio-Marine series. They are subdivided into the Headon Osborne, Bembridge, and Hampstead bcds. The subdivisions, Lower, Middle, and Upper, of the Oligocene in France, Belgium, Switzerland, and N. Italy have been named after places of typical development, as Tongrian (from Tongres), Etampian (after Etampes), and Aquitanian (Aquitania) respec-

ing the Lower Oligocene, followed by lacustrine and marine marls. highest beds are the sandstones of Fontainebleau and the fresh-water limestones of Orleans (Beauce). The. German Oligocene are renarkable for their deposits of lignite and brown coal. In N. America the 'Vicksburg beds' (orbitoitic) occurring in Ala-bama and Florida and the 'Red Bluff' of the Mississippi district are of Oligocene age.

Olinda, a tn. of Brazil, on the coast, 11 m. N. of Pernambuco. It contains convents and magnificent temples, and was once the cap, of the state,

Pop. 8000.

Oliphant, Laurence (1691-1767), a Jacobite, Laird of Gask. He was sent by his father to support the insurgents in 1715, and was present at the battle of Sheriffmuir. In 1745 he battle of Sheriffmuir. In 1745 he joined Prince Charles Edward, who made him governor of the north with Lord Strathallan. He was present at the battles of Falkirk and Culloden, and after the latter fled to Sweden. His lands were confiscated, but repurchased in 1753 by some friends. He returned to England in 1763.

Oliphant, Laurence (1829-88). English author, born at Cape Town, and belonged to an ancient Scottish family. In 1851 he went with Jung Bahadur to Nepaul, and published his first book, A Journey to Khatmandu, in 1852, as a result of his tour. Having returned to England, he practised law for a time, but soon threw over his legal studies, and went to travel in Russia. The outcome of this tour was The Russian Shores of the Black Sea (1853). In 1853-4 he was secretary to Lord Elgin at Washington and in Canada, and later acted in the same capacity on Elgin's expedition to China, about which he published Narrative of Mission to China and Japan. In 1870 he ma

his satirical no.

1871 acted as Times during He met and married Miss War.

th her probook called

written at), a story in one of his cleverest works, and Masollam, a novel, were also composed. Among his later books are: Episodes in a Life of Adventure; Fashionable Philosophy, a collection of various stories; and Scientific Religion.

Oliphant, Mrs. Margaret (1828-97). an English authoress, born at Wallyford, near Musselburgh. She pro-duced her first novel, Passages in the

Life of Mrs. Margaret Mailland, in and the loss of Brazil and other 1849, following this by Caleb Field foreign colonies. In consequence of and Merkland in 1851. The last these misfortunes the king was named met with such great success that on coming to London in 1852 she was invited to contribute to the she was invited to contribute to the famous Blackwood's Magazine, and wrote Katie Stewart (1853), A Quiet Heart (1854), Zaidee (1856), and The Athetings (1857). Previous to this, she had, in 1852, married her cousin, Frank Wilson Oliphant, who was an artist in stained glass. She wrote in all about 100 hooks the best known. all about 100 books, the best known all about 100 books, the best known of which are: Adam Græme, 1852; Magdalen Hepburn, 1854; Lilliesleaf, 1855; The Laird of Norlaw, 1858; Salem Chapel, 1863; The Rector and the Doctor's Family, 1863; The Perpetual Curate, 1864; Miss Marjorishanks, 1866; Madonna Mary, 1867; Squire Arden, 1871; Hester, 1883; Kirsteen, 1890; The Marriage of Elinor, 1892; The Ways of Life, 1897, among works of fiction. But she also wrote the biographies of Edward Irving, Laurence Oliphant, and wrote the biographies of Edward Irving, Laurence Oliphant, and Sheridan (English Men of Letters Series), and Historical Sketches of the Reign of George II., 1869; The Makers of Florence, 1876; A Literary History of England from 1790-1825 (1882); The Makers of Venice, 1887; Royal Edinburgh, 1890; Jerusalem, 1891; The Makers of Modern Rome, 1895; besides The Victorian Age of English Literature with her son Frank, and The Beleaguered City, 1880; and A Little Pilgrim in the Unseen, 1882.

Oliva: 1. A. tn. of Spain in the prov. of Valencia, 40 m. S.S.E. of Valencia. It contains an ancient palace and

It contains an ancient palace and

manufs. linen cloth. Pop. 9344. 2. A market tn. of W. Prussia, 4 m. N.W. of Dauzig. Pop. 9344. 1. Olive Branch Petition, the last effort made by Congress in 1775 to conciliate the English government. after the outbreak of hostilities in the War of American Independence. The only answer given to this appeal was a large increase of land and sea forces and a declaration in parliament to take stern measures against the 'conspirators and insurgents 'in America.

Olivares, Gaspar de Guzman, Count of, and Duke of San Lucar (1587-1646), a Spanish minister, born in Rome. He was appointed to a post in the he was appointed to a post in the household of the heir-apparent during Philip III.'s reign, and gained such a complete influence over the young prince that when he ascended the throne the whole management of public affairs was in his hands. But although he conducted domestic affairs with some success, he was constantly thwarted in foreign affairs constantly thwarted in foreign affairs by Richelieu, and had the mortification to witness the separation of Spain, England, and though of French

obliged to dismiss him in 1643, and he died two years later. He published an apology under the title El Nicandro.

apology under the title Bi Nicanaro.
Olive (Olea europæa), a slow-growing tree, with undivided leaves and axillary clusters of green flowers followed by pendulous, lustrous, blueblack oily fruits. While green and unripe, the fruits are bottled or pickled in brine. Olive oil is extracted by pressure from ripe fruit.
The tree has been cultivated since a The tree has been cultivated since a remote period, especially on the borders of the Mediterranean Sea, and the cultivated forms exhibit great improvement in the size and oiliness of the fruits compared with the tree in its wild state. The wood is soft, but takes a high polish, and is used for making small fancy articles.

Olivenite; an olive-green coloured hydrous arsenate of copper with phosphorus. It occurs in ortho-rhombic prisms, but is also found fibrous and globular or earthy (h.=3, sp. gr.=4'4). The crystalline variety is found in Cornwall and Devon, and at Alston Moor in Cumberland. It has a vitreous lustre and breaks with a conchoidal fracture. The fibrous variety is also called wood-copper or

wood-arseniate.

Olive Oil, a fixed oil expressed from the fruit of the olive-stree, Olea europæa, of the natural order Oleaceæ. The olive-tree has been cultivated from the earliest times in Greece, Italy, Southern Spain, Asia Minor, and other Mediterranean countries, and has been introduced into Mexico. and has been introduced into America, Chile, Peru, the southern states of America, Australia, China, S. Africa, etc., though the chief supply of the oil still comes from the Mediterranean coasts. The fruit is pressed to a pasty consistency, enclosed in woollen bags, and subjected to considerable pressure. This reliefs oil of woolen bags, and subjected to considerable pressure. This yields oil of the first quality; second and third grades are yielded by subsequent pressings. O. O. is used for culinary purposes; for the toilet; in medicine as a laxative, a nutritive food, an emollient in external applications, etc.; and in the arts for the manuf, of soon, etc. It consists chiefly of older. soap, etc. It consists chiefly of clein, and palmitin.

Olive, Princess, a title assumed by Mrs. Olivia Serres (q.v.).

Olivenza, a fortified tn. of Spain in the prov. of Badajos. It stands near the Portuguese frontier in a fertile plain, and has trade in wine, oil, and corn. Pop. 19,000.

James I. and his family, Sir Philip rule. Sidney, and the family of Sir Kenelm Ol Digby.

works ín remarkable miniature (

existing. Olives, Mount of, called also Mt. Olivier, Juste Daniel (1807-76), a Olivet, is only once mentioned by this swiss poet, student, and, later, lecturer at Lausanne Academy. He though it is elsewhere spoken of under other titles. It is situated to the E. of intimate with Sainte-Beuve, and then of Jerusalem, from which it is separated by the valley of the Kidron or valley include: L'avenir, 1831; Les Chandrid Paris (Company) of Jehoshaphat. The name is frequently applied to the range of hills of which it forms one. To its N. is the Scopus, the site of the encampment of the Romans under Titus. The canton de Vaud, 1837-41; Mouvement Prophets' is a hill to the S. of Olivet intellectual de la Suisse, 1845. See proper, and the outlying spur of the Rambert, Memoir, and selection of range to the S. is known as the Mt. of Olivier, 1880. Olives, Mount of, called also Mt. Offence. The M. of O. is connected Olivier, 1880. intimately with the life of Jesus, for Olivine, see on the western slope lay the Garden ous Rocks. of Gethsemane. See works on Syria,

translated many works of the ancients, garlic. especially Cicero.

Olivetans, a religious order in the potch.'

origin, was regarded by his contemporaries as an Englishman. He John Tolomei (b. 1272), who was painted many portraits, and was exceedingly expert in his miniatures. Among his works are the portraits of this and follows the Benedictine former Land his family. Sin Histing and follows the Benedictine

Olivier, Guillaume Antoine (1756-1814), a French traveller and natural-Oliver, Peter (1594-1648), a minia- ist, born near Toulon. He went on a ture painter, the son of Isaac O. He scientific mission to Persia in 1792, and painted many of the court and returned with a valuable collection nobility, but is specially famous for a latter an absence of six years. In 1800 series of copies in water-colour of he became a member of the Académic celebrated pictures by the old des Sciences, and soon after professor old des Sciences, and soon after professor masters. Many of these were made of zoology in the veterinary school of at the king's request, and seven of Alfort. Among his works are: Voyages them are still at Windsor Castle. O.'s dans l'Empire Ottoman, l'Enypte, et la copy of Vandyck's portrait of Rachel Perse, 1801-7, with an atlas and Massue de Ruvigny, Countess of plates: Histoire naturalle des Insectes Massue de Ruvigny, Countess of plates: Histoire naturelle des Insectes Southampton, is one of the most Coléoptères, 1789-1809; Dictionnaire d'histoire naturelle des Insectes. Papil-

lons, Crustacés, etc., 1789-1825. Olivier, Juste Daniel (1807-76), a

Olivine, see CHRYSOLITE and IGNE-

of Gethsemane. See works on Syria, Olla Podrida, or Olla Española Palestine, and Jerusalem by Stanley, (literally 'putrid pot'), so called Palestine, and Jerusanda Joseph Porter, Thomson, Barclay, etc. from its miscentaneous of meat, fish, poultry, of the property Olivet, Pierre Joseph Thouher, Istew made of mean, ash, pointry, Abbé d' (1682-1768), a French scholar, Vegetables, and other ingredients, born at Salins. Amongst other works he published Histoire de l'Académie in a closed pot, and is always very francaise (1723). He also edited and highly seasoned with pepper and translated many works of the ancients, garlie. Compare the French 'potand the Scotch 'hotch-

